DOCUMENT RESUME

ED 278 284 HE 019 432

TITLE	Improving University Teaching. Proceedings. International Conference (10th, College Park, Maryland, July 4-7, 1984).
INSTITUTION	Maryland Univ., College Park. Univ. Coll.
PUB DATE	Jul 84
NOTE	338p.; Document contains small print. For other volumes in this series, see HE 019 430-431.
AVAILABLE FROM	University of Maryland, University College, University Boulevard at Adelphi Road, College Park, MD 20742 ($35.00 for four volumes).
PUB TYPE	Collected Works - Conference Proceedings (021) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC14 Plus Postage.
DESCRIPTORS	Adult Students; Burnout; College Administration; *College Faculty; *College Instruction; Cooperative Programs; *Educational Change; Educational Quality; Educational Technology; Education Work Relationship; Faculty Development; Higher Education; Humanistic Education; *Instructional Improvement; Liberal Arts; School Business Relationship; Stress Variables; Teacher Effectiveness; *Teacher Morale

ABSTRACT

Proceedings of the tenth international conference on improving university teaching are presented, along with summaries and abstracts of supplemental papers. Theme presentations and authors include: "Maintaining and Enhancing Faculty Motivation and Morale in an Era of Decline" (Martin L. Maehr); "Adapting to the Growing Presence of Adults in Universities in the United States" (Morris T. Keeton); "Towards New Concepts for Better Cooperation between Higher Education and Industry" (Jean Michel); "Liberal Education and Life after Graduation" (Robert M. Diamond); "Academic Administration for the 21st Century: The Participants and the Processes" (George Keller); and "Meeting Student Needs with Technology" (Wilbert J. McKeachie). Seminar papers and authors include: "Student Learning in the University" (Janet G. Donald); "An Investigation of the Duties of External Examiners in Higher Education in the United Kingdom" (David Warren Piper); "Need for Developing Humanistic Values in the Teaching and Learning Environment: A Paradigm Shift" (Kishore Gandhi); "Values Made Tangible: Cultural Artifacts and Humanistic Education" (Ted Bogacz); "Burnout: A Study of Stress in Academe" (Winifred Melendez, Rafael de Guzman); "Pressures of the Professoriate: Individual and Institutional Coping Strategies" (Walter H. Gmelch); and "Ten-Year Perspective on Faculty and Staff Development" (Robert J. Menges). (SW)

****
*   Reproductions supplied by EDRS are the best that can be made   *
*   from the original document.   *
****

ED 278 284

Improving University Teaching

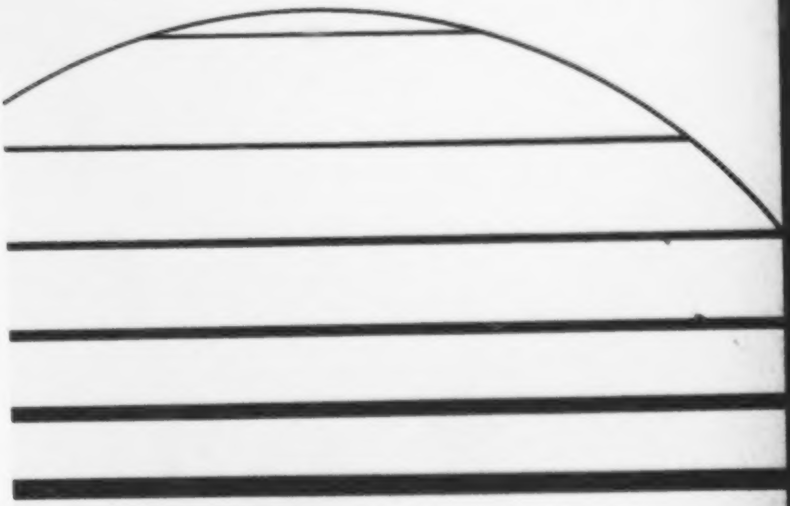
Tenth International Conference

July 4-7, 1984
College Park, Maryland

Under the auspices of
The University of Maryland
University College

Proceedings

HE 019 432



U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Debra W. Russell
Univ of MD,
~~University College~~

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

For additional copies, write:

Improving University Teaching
The University of Maryland University College
University Boulevard at Adelphi Road
College Park, MD 20742
USA

CONTENTS

CONFERENCE OPENING

Page

Welcome — T. Benjamin Massey — 1

THEME PRESENTATIONS

The Professor of the Future: Expectations, Dilemmas, Solutions

Six Revolutions in the Process of Education — Donald Bligh — 5

Maintaining and Enhancing Faculty Motivation and Morale in an Era of Decline — Martin L. Maehr — 21

Adapting Postsecondary Education to Changes in Demography, Social Expectations, and Resources

Adapting to the Growing Presence of Adults in Universities in the United States — Morris T. Keeton — 39

Adapting Post-Secondary Education to Changes in Demography, Social Expectations and Resources: The Case of a Small Country — Lennart Levin — 49

Higher Education, Industry, and the Professions: Making the Partnerships Work

Towards New Concepts for Better Cooperation between Higher Education and Industry — Jean Michel — 74

Historical Relationship of Universities with Business and Industry — Barbara W. Newell — 82

BEST COPY AVAILABLE

Page

Liberal Education and Vocationalism: Conflict or Compatibility?

Liberal Education and Life after Graduation — Robert M. Diamond — 100

Liberal Versus Vocational Education: What Does or Should The Concept of General Knowledge Imply in Our Global Society? — Ulrich Peter Ritter — 108

Academic Administration for the 21st Century: The Participants and the Processes

Academic Administration for the 21st Century: The Participants and The Processes — George Keller — 120

Response — Arthur M. Sullivan

Matching the Technology with the Needs of Students

Meeting Student Needs with Technology — Wilbert J. McKeachie — 125

Marcel L. Goldschmid

SEMINARS

In Search of Academic Excellence

An Organizational Perspective — Peter Seldin (Chair) — 132

Student Learning in the University — Janet G. Donald — 145

Samples of Experience — Bradford W. Imrie — 160

An Investigation of the Duties of External Examiners in Higher Education in the United Kingdom — David Warren Piper — 184

The Need for Developing Humanistic Values in the Teaching-Learning Environment

		Page
Need for Developing Humanistic Values in the Teaching and Learning Environment: A Paradigm Shift	Kishore Gandhi (Chair)	198
Need for Developing Humanistic Values in the Teaching and Learning Environment - What the Curriculum Can Contribute	M. Gopalakrishnan	222
Values Made Tangible: Cultural Artifacts and Humanistic Education	Ted Bogacz	240
Environment and Its Development: Educational Approach	T. Navaneenth Rao	249

Stress and Burnout in Academia: Determinants, Consequences, and Coping Mechanisms

Sources of Stress in Academe: A Cross-Cultural Comparison between Israeli and American Academicians	Arye Perlberg (Chair)	252
Burnout: A Study of Stress in Academe	Winifred Meléndez and Rafael de Guzmán	266
Pressures of the Professoriate: Individual and Institutional Coping Strategies	Walter H. Gmelch	277

A Ten-Year Perspective on Faculty Development, Teaching and Learning, Teaching with Instructional Technology, and Faculty Evaluation

A Ten Year Perspective on Faculty Evaluation	Richard I. Miller (Chair) Lionel F. Evans Marcel L. Goldschmid	302
Ten-Year Perspective on Faculty and Staff Development	Robert J. Menges	316

CONTRIBUTORS

Adas, Abdul-Rahman
University of Jordan, Kingdon of Jordan

Aggen, William D.
The University of Maryland University College, USA

Akinola, Joshua A.
University of Ife, Nigeria

Alanis, Roberto
Instituto Tecnologico y de Estudios Superiores de Monterrey, Mexico

Avi-Itzhak, Tamar E.
University of Haifa, Israel

Bailey, Judith G.
University of Delaware, USA

Baskind, Frank R.
The University of Tennessee, USA

Bell, Fred D.
The University of Manchester, England

Bishop, Peter D.
Brighton Polytechnic, England

Bligh, Donald
Exeter University, England

Bogacz, Ted
United States Naval Academy, USA

Bouton, Clark W.
University of the District of Columbia, USA

Breitenfeld, Frederick
WHYY Television and Radio, USA

Brower, Irene C.
Indiana University of Pennsylvania, USA

Burstein, George
California State University, USA

Campbell, Ray W.
The University of Maryland University College, USA

Caraway, James E.
The University of Tennessee, USA

Caruana, Claudia M.
Long Island University, USA

Civikly, Jean M.
The University of New Mexico, USA

De Guzmán, Rafael M.
University of Puerto Medical School, Puerto Rico

Diamond, Robert M.
Syracuse University, USA

Donald, Janet G.
McGill University, Canada

Donaldson, Alice
Purdue University, USA

Duckworth, Douglas H.
The University of Leeds, England

Ehrmann, Stephen C.
Fund for the Improvement of Postsecondary Education, USA

Eoaskoon, Waraporn
Ramathibodi Hospital, Thailand

Evans, Lionel F.
The City University, England

Fletcher, Kathie A.
The University of Maryland University College, USA

Foster, Stephen F.
University of British Columbia, Canada

Freeley, Mary Ellen
St. John's University, USA

Fuhrmann, Barbara S.
Virgnia Commonwealth University, USA

Furukawa, James M.
Towson State University, USA

Gabelnick, Faith
The University of Maryland at College Park, USA

Gandhi, Kishore
Osmania University, India

Garrett, Gerald R.
University of Massachusetts-Boston, USA

Ghatak, Rita
Indian Institute of Technology, India

Glade, Michael J.
The University of Maryland at College Park, USA

Gmelch, Walter H.
Washington State University, USA

Goldschmid, Marcel L.
Swiss Federal Institute of Technology, Switzerland

Gopalkrishnan, Mamidipvdi
Department of Education, Government of Andhra Pradesh, India

Gröhn, Terttu
University of Helsinki, Finland

Haber, Gilda Moss
The University of Maryland University College, USA

Hamdan, M. A.
University of Jordan, Kingdom of Jordan

Hanna, Stanley J.
Gloucester Community College, USA

Hearn, Lonnie L.
University of Delaware, USA

Hettich, Paul
Barat College, USA

Hine, William C.
University of Evansville, USA

Horning, Alice S.
Oakland University, USA

Howarth, John L.
The University of Maryland at College Park, USA

Imrie, Bradford W.
Victoria University of Wellington, New Zealand

Indiresan, Jayalakshmi
Indian Institute of Technology, India

Jamornmann, Utumporn Thongutai
Chulalongkorn University, Thailand

Johnson, Kerry A.
The University of Maryland University College, USA

Kapp, C. A.
University of Stellenbosch, Republic of South Africa

Keeton, Morris T.
Council for the Advancement of Experiential Learning, USA

Keller, George
Gilett-Barton Company, USA

Kremer-Hayon, Lya
University of Haifa, Israel

Levin, K. G. Lennart
National Board of Universities and Colleges, Sweden

Lindenau, Suzanne E.
University of Georgia, USA

Ludington, David M.
Whittier College, USA

Lynch, David M.
Indiana University of Pennsylvania, USA

Lyne, Noreen
Montgomery College, USA

Mac Donald, Judith B.
Montclair State College, USA

Maehr, Martin L.
University of Illinois, Urbana-Champaign, USA

Majali, Abdel Salam
The University of Jordan, Kingdom of Jordan

Marques, Juracy C.
Universidade Federal do Rio Grande do Sul, Brasil

Mayo-Wells, Barbara
The University of Maryland University College, USA

Mc Aleer, John
Ulster Polytechnic, Northern Ireland

Mc Beath, Ron J.
San Jose State University, USA

Mc Cullough, Celia M.
The University of Tennessee, USA

Mc Gihon, C. L. Denny
Psychotherapy Services Associates, USA

Mc Gill, Lawrence T.
Northwestern University, USA

Mc Inerney, Michael F.
Ulster Polytechnic, Northern Ireland

Mc Keachie, Wilbert J.
University of Michigan, USA

Mc Kenna, Peter
National Institute for Higher Education, Ireland

Mehl, M. C.
University of the Western Cape, Republic of South Africa

Meléndez, Winifred A.
Inter American University, Puerto Rico

Menges, Robert J.
Northwestern University, USA

Michel, Jean
École National des Ponts et Chaussées, France

Miller, Richard I.
Southwest Texas State University, USA

Millis, Barbara J.
The University of Maryland University College, Tokyo

Miron, Mordechai
Tel Aviv University, Israel

Mora, Julia
Universidad del Valle, Colombia

Navara, Erik
University of Lulea, Sweden

Newell, Barbara W.
State University System of Florida, USA

Oldham, Brian E.
Teesside Polytechnic, England

Osterman, Dean N.
Oregon State University, USA

Pangman, Clare H.
University of Manitoba, Canada

Parrott, Roger
Mid-America Nazarene College, USA

Pastoll, Gregory
University of Cape Town, Republic of South Africa

Pearl, Nancy B.
The University of Maryland at College Park, USA

Pérez de Léon, Eduardo
Universidad Regiomontana, Mexico

Perlberg, Arye
Technion - Israel Institute of Technology, Israel

Prieto, Marcia
Universidad Catolica de Valparaiso, Chile

Rao, T. Navaneeth
Osmania University, India

Retsinas, Joan M.
Brown University, USA

Ritter, Ulrich P.
J. W. Goethe Universtaet, F. R. Germany

Rosenberg, Vivian M.
Drexel University, USA

Rowntree, Derek
The Open University, England

Russell, William E.
Merrimack College, USA

Schreier, James W.
Marquette University, USA

Schwartz, Edward E.
University of Delaware, USA

Seldin, Peter
Pace University, USA

Shaeffer, James M.
Northwestern University, USA

Sinclair, A. J. L.
University of the Western Cape, Republic of South Africa

Sistek, Vladimir
University of Ottawa, Canada

Spiegler, Michael D.
Providence College, USA

Sprague, Gregory A.
Loyola University of Chicago, USA

Storey, Anthony
University of Cambridge, England

Strouse, Jeremiah S.
Central Michigan University, USA

Sugar, Stephen E.
The University of Maryland University College, USA

Sullivan, Arthur M.
Memorial University of Newfoundland, Canada

Thielens, Wagner P.
Columbia University, USA

Thomas, David A.
Walla Walla College, USA

Ulbricht, Kurt R. G.
University of the Federal Armed Forces, Munich,
F. R. Germany

Van Deynse, Noël R.
Katholieke Universiteit Leuven, Belgium

Van Overwalle, Frank J. M.
Free University Brussels, Belgium

van Rossum, Erik Jan
Tilburg University, The Netherlands

Videla Pilasi, Enrique O.
National University of Misiones, Argentina

Wahlen, Staffan P.
University of Stockholm, Sweden

Walsh, Frederick J.
Montgomery College, USA

Warren Piper, David
University of London, England

Whitehouse, Peter G.
Ulster Polytechnic, Northern Ireland

Wilding, Sally
The University of Maryland University College, USA

Williams, Dennis R.
University of Delaware, USA

Wolvin, Andrew D.
The University of Maryland University College, USA

Ziegler, Herbert L.
The University of Maryland University College, F. R. Germany

Zoller, Uri
Haifa University-Oranim, Israel

Zubir, Rohana
University of Malaya, Malaysia

WELCOME

T. Benjamin Massey
The University of Maryland University College

Welcome to our Tenth International Conference on Improving University Teaching. In May of 1975, postsecondary faculty and administrators from 15 nations gathered at Heidelberg University to initiate what we hoped would be a continuing dialogue on the improvement of teaching and learning in higher education. In subsequent conferences, as many as 33 countries have been represented.

Our conference grew out of two convictions. One was the realization of an increasingly urgent need to end centuries of benign neglect in postsecondary pedagogy and do something to enhance the effectiveness of teaching and learning in our institutions of higher learning. The other conviction was that the difficulties encountered in assessing and improving teaching performance are seldom unique to one institution, one sector of higher education, or one country. Different parts of the world had a great deal to learn from and contribute to one another in the shared goal of "raising the consciousness" of the academic community. A forum was needed.

As we begin our Tenth Conference, has that consciousness been raised, has teaching effectiveness been promoted, and has this conference done any good? Yes, yes, and yes, I will venture to say. The need for teaching competence in postsecondary education has been increasingly acknowledged, progress in achieving that competence has been made, and our conference has made a difference. Besides providing a forum for discussion and reflecting the state of the art, a conference such as this one has value equal to the accomplishments of its participants. Many contributors to IUT Conferences over this past decade, I am pleased and proud to say, have been leaders both in the design and implementation of faculty evaluation and development programs and in efforts to bring international attention to the importance of teaching excellence. We hope that our conference has provided a focal point for these efforts.

Where are we now with the improvement of teaching and learning in higher education? We find ourselves with yet a long way to go. Our job is, at best, only half finished. In fact, we may have traded one problem for another. There is no question that postsecondary institutions now expect faculty to perform effectively as teachers. In all aspects, higher education has become closely accountable to its sponsors and consumers. Faculty accountability to student consumers in the classroom is one facet of that, and the practice of evaluating teaching as well as scholarly performance is now widespread. To compound matters, retrenchment in higher education has made academic appointments highly competitive and reduced faculty mobility. As phrased by Peter Seldin in his recent book Changing Practices in Faculty Evaluation, professors are involved in a rating game that affects their very survival.

However, though teaching excellence may now be expected, it is not often enough rewarded. Scholarly productivity weighs much more heavily in promotion and retention decisions. Nearly everyone recognizes this lopsidedness in the faculty reward system, but the system hasn't changed despite convincing findings that challenge the presumed relationship between competence in research and competence in teaching. Teaching for its own sake goes largely unrewarded. In great part, our difficulty is to define good teaching, or to determine with sufficient precision the impact of teaching on student learning. I think most of us would agree that it is easier to recognize bad teaching when we see it than to characterize good teaching or to train teachers.

The gain we have made in higher education during the past 15 years, then, is the recognition that we cannot condone bad teaching. Our failure, and the new problem that we've brought on ourselves, is to provide adequate incentives for outstanding teaching: to alter the academic value system.

Furthermore, while we debate values and rewards, the earth has shifted beneath us. Technological innovation has caught our profession off-guard, and we are only now beginning to discover the implications of hardware and software for teaching and learning. Our last four IUT Conferences have increasingly emphasized the use and abuse of technology, and we will be talking about it again this week. During the week we also will focus on other issues that surround and complicate our teaching improvement initiatives -- changing demography and the adult learner, shrinking resources, higher education's relationship to industry and the professions, the tension between liberal education and vocationalism, and the new demands upon institutional planning and management.

Our conference is unique, we believe. What makes it so? First, we emphasize dialogues, not sermons; open-ended explorations, not pat answers. Our theme presentations this week will help to highlight the topics on most of our minds. We want you to listen. But then we want you to talk. Our contributed paper sessions, seminars, workshops, and materials you received before the conference are designed to encourage you to share with one another concerns, findings, successes, and failures. Second, and of how many conferences can this be said?, we represent myriad academic disciplines and professional specialties, yet we are here, united as it were, in a single preoccupation: improving teaching and learning.

We at The University of Maryland University College are delighted to be hosting this Tenth Improving University Teaching Conference. Our local area is rich in cultural attractions that I hope those of you who have traveled here will have an opportunity to enjoy before you leave. At the same time, I would not like to think that these attractions would divert you from our deliberations. I should mention in passing, perhaps, that the subway to Washington, DC is not within walking distance of this building.

We welcome each of you and hope to see you at future IUT Conferences.

THE PROFESSOR OF THE FUTURE: EXPECTATIONS, DILEMMAS, SOLUTIONS

SIX REVOLUTIONS IN THE PROCESS OF EDUCATION

Donald Bligh - University of Exeter

I am not sure what the organisers of this conference expected when giving the upper title to this paper. One cannot easily research the future until it becomes the past (though Martin Maehr's paper is commendably near to that!). Any selection of speculations is likely to be arbitary, personally idiosyncratic and undisciplined. I shall therefore adopt a self imposed historical dialectic and take the opportunity (which I think all professors should take once in a while) to step back and take a panoramic view of our work.

Revolutions in education are not revolutions in the sense of over-throwing and abandoning the technologies of the previous age. Nor are they accretions. The essence of my historical dialectic is that revolutions are alchemies and each is compounded from a particular interaction of all their predecessors. They are evolutionary transformations resulting in new values and a new social order, but they are not total as revolutionaries often think. Indeed, each age continues to use the technologies of its predecessor so that the revolutions appear to be overlapping. Consequently educational revolutions tend to produce periods with conflicting values (dilemmas) which, interestingly, can only be resolved by education itself.

An educational revolution is not necessarily sudden or popular, still less is it violent; but it has novelty even though some of its essential elements will have existed long before they interact with revolutionary consequences.

Furthermore, as in other revolutions, not every aspect of education is immediately affected so that different aspects of education may be simultaneously primitive and sophisticated even though the principles or technology that make one part sophisticated could easily be applied to what remains primitive.

Many aspects of the role of professors are still primitive. But I want to show that in several important respects their role has evolved through four revolutions. That is to say, there have been five ages or phases with four significant advances in between. I shall then use the dialectic to suggest two further educational revolutions.

1. CONSCIOUS AND INTENTIONAL EDUCATION

The first major revolution occurred when adults, probably parents in the wild, consciously recognised that they must teach the young. This occurred after biological changes affecting our cerebral development. It involved relating man's capacity to learn with that under-recognised distinctive characteristic, his capacity to anticipate. When education was no longer left to chance, when it became a matter of intention, there were the beginnings of culture. Parents and the extended family became responsible for its transmission.

2. PROFESSIONAL SPECIALISATION

Conscious awareness of what one is doing is the beginning of studyng it. Studying what one is doing increases one's knowledge of it and people who study it more will develop additional knowledge and skill. It is then a short step from specialist expertise to professional specialisation.

As part of the neolithic revolution, the demands to pass on new techniques and the beliefs and practices of formal religion resulted in individuals taking special responsibilities for teaching. This has been a continuing process both in the growth of those responsibilities and the growth of professionalism. Even in our time schools have taken increased responsibility for sex education, and the professional training of school teachers has become compulsory. The continuing education of adults, higher education, the existence of professors and, more recently "staff" or "professional" development activities are all results of professional specialisation.

Increasing specialisation constantly produces new examples of the same professional dilemma: What are the boundaries of responsibility between the new specialists and the people who previously did the job as amateurs ? New dilemmas keep arising because the boundaries keep changing. You can think of examples of these boundary conflicts as easily as I: How far does a university stand in loco parentis and is it in practice possible to give the same answers for men and women? Who should pay for a students' education and in what proportion? What should be the boundary between public, private and employers' financial support for students and what, if any, should be the obligations of students in return? Recent research into study methods has led to new specialists giving courses and counselling in study techniques; so what is the new boundary between these specialists and tutors who may previously have given advice on studying?

I am sure you can all think of other fields where specialisation associated with the division of labour, is increasing. Specialisation affects curricula; but I think it is important to notice that the objections to early specialisation in schools are only indirectly associated with the division of labour. The objections are partly, not to the children having specialist knowledge of certain subjects, but to their consequent ignorance of others and their ignorance of general social values and general knowledge. Early curricula specialisation is also partly to do with the process of selection for a higher education and may have little to do with getting a job.

3. DISTANCE EDUCATION

I have placed distance education after specialisation because education by professional specialists is not much good if you can't get the right specialists. Neither a village school not a modern university can have specialists in everything. Specialisation establishes authorities and, it is when authorities are not always present, that distance becomes important.

The third revolution lay in the capacity to use the professional specialisation of experts at a distance (in time or space). This began with writing and drawing and was greatly enhanced by the invention of the printing press. In our own day it has been further developed by radio, television, audio-tapes, word-processors, programmed and computer assisted learning, graphics including photographics, satellite communications and all manner of means of presenting information at a distance. No doubt many other inventions will increase distance education. Traditionally they have conflicted with personal interaction. Interaction is difficult at a distance but technology can make it possible. For example, telephone tutorials are more feasible than many people suppose.

Distance techniques also permit teaching to be shared again, not now in the sense of several people teaching the same thing to the same student as occurred before specialisation, but in the sense that courses become increasingly sub-divided so that each expert can contribute his particular specialism. For example distance teaching may allow every student of quantum mechanics to be taught, directly or indirectly, by the same professor far away, perhaps in another country.

If this process is carried to its logical conclusion there is a danger of homogeneity, if not indoctrination. Commercial pressures in the production of distance materials will increase this tendency. As the student market becomes wider the number of professors competing to produce the definitive teaching material on a specific topic will increase. There could be a number of different effects. Each professor's subject area might become even narrower. Survival of the fittest might result in the evolution of a homogeneous style of presentation in a given educational climate (rather like the leaves of different equatorial trees all having the same shape). Specialisation in teaching might become so great that the professors' teaching and research functions become separated. (We already have research professors.) - I don't know what will result; much will depend on who takes the decision on what educational materials to buy.

However the exact opposite could be argued: namely that distance techniques allow a greater diversity of views and styles to be presented. As communication and information retrieval become easier, the authority of professosrs will be increasingly challenged. This could be a dilemma for professors' self esteem. They are committed to the dissemination of knowledge and thereby reducing the uniqueness of their expertise, yet their self image and self-esteem are based upon their knowledge being distinctive. This was no problem when education was local and most knowledge came from the local professor, but now he must increasingly defend himself against knowledge his students have obtained from other sources (eg computerised information networks.)

The reconciliation of the homogeneity/diversity arguments may be that the wider dissemination of ideas has resulted in the merging of cultures (and in that sense there is less diversity) but that there has been a greater diversity of views within the fewer and larger cultures that survive. Notice fundamental to this reconciliation is choice amongst diversity and the maintenance of criticism. Hence the central place of criticism and counter criticism in the role of the professor.

4. EDUCATION AS CRITICAL ENQUIRY

Like the other revolutions, the revolution in critical enquiry grew out of its predecessors. As soon as the words of authorities are set down in writing, they are seen to conflict. It was not a coincidence that the Renaissance followed the invention of the printing press. If the authorities are not present to resolve a conflict, the individual must resolve it himself. Thus the revolution in critical enquiry is associated with independence. It is also associated with an evolutionary conception of knowledge, education and other social institutions.

This is, of course, the revolution that, in my country, we think of as distinguishing higher, from other kinds of education. Critical enquiry is essential to our notions of research, particularly in the social sciences. In the presence of this audience I hardly need to expound upon the values and principles that we tend to regard as fundamental to our ways of thinking.

The change from trusting authorities to using independent critical enquiry appears first to undermine the status of a professor and second to have the seeds of its own destruction.

Firstly as specialisation and criticism increase professors will no longer be able to master the breadth of their subject or keep up to date. As criticism is more voiced, the inadequacy of professors' mastery will be more openly admitted. Traditional expectations will not be fulfilled. The case for academic control of research and curricula will be weakened. Yet in the eyes of many, tenure and academic freedom are based upon the unique position of academics in their professional search for the truth. There is a dilemma. Tenure and insufficiently qualified persons versus no tenure and freedom to hire those with greatest mastery. This may lead to more hiring of visiting experts particularly by using modern technology.

Secondly if conflicting beliefs are translated into action, there will be conflicts of a more physical kind. And history shows this. It is usual to reply that destruction is avoided by the observance of principles common to both academic and democratic processes, such as tolerance of opinions other than one's own, certain academic freedoms of expression, and the use of persuasion by rational argument.

Democracy, it is argued, is constantly revitalised by the injection of independent critical enquiring minds produced by higher education. There is some truth in that, and I think it is important to say so at a time when the political value of higher education is increasingly being seen solely in economic terms. Nonetheless, if democracy is dependent upon attitudes of tolerance, freedom of expression and rational argument, I think it will be unstable. Criticism can be destructive. Enquiry can produce knowledge that is misused. Tolerance is weak against intolerance. Open mindedness may give way to dogmatism if open minds let in dogmatic views while dogmatic minds never entertain a shred of doubt. (I think of pre-war Germany.) True, professors can be authorities without being authoritorian and we can allow free speech for those who use freedom to speak against it, but only to some extent. Though the pressures may return, I don't think professors in the western world now face up to these dilemmas; in many parts of the Third World they are there all the time.

I hope the answer to this pessimism is that, like the other revolutions, critical enquiry contains the ingredients of a further educational revolution. I think it does. The autonomy of academics, which seemed increasingly challenged in this section, can continue to be justified if they remain one revolution ahead in their chosen fields. What I want to show in the next section is that these fields must now include studying the teaching and learning of their subject as well as how to do research in it.

Indeed I think I can see the elements of two further future revolutions; but of course these thoughts are necessarily more speculative and, being about what is beyond our experience, they are less clear. The first of these revolutions, that is the fifth in all, could accellerate in the near future. The second seems a long way off.

5. EDUCATIONAL REFLEXIVENESS

What do I mean by educational reflexiveness? I mean changes resulting from the intentional use of conscious critical enquiry by specialist teachers and researchers to develop the process of education itself. By "reflexiveness" I mean the planned use of education to develop itself. I am not concerned here with the way a pupil's or student's learning develops upon what he has learned already. That is usually unconscious and unplanned, at least by him. Nor is my concern with the haphazard adoption by teachers of educational insights which could not have occurred without their prior education. Nor again, do I refer to the cycle in which teachers are themselves products of an educational system they perpetuate.

I am concerned with something analogous to the mass production of the means of production. I mean the intentional harnessing of the intellectual resources created by education and research for the furtherance of education and research. The acquisition of knowledge about the processes of acquiring knowledge began long ago; but there is not much understanding about the processes of understanding. The application of principles about the process of applying principles is virtually unknown because we have little understanding of such higher order principles. Although there is plenty of advice and anecdotal evidence, there is very little research about the processes of research. In particular, systematic research to generate significant research questions awaits the development of our understanding about the possible structures of knowledge of which there are probably many. (I'll return to structures of knowledge in a moment.)

Why do I think educational reflexiveness will follow critical enquiry? It is a natural step from critical enquiry into a subject, to being critical about the processes of that critical enquiry. Even in the most hard nosed objective science, if our ideas are incessantly challenged to their fundamentals, we find those ideas are based in subjective judgement. Then the questioning can continue about any specific judgement, "How did you come to make that judgement?". To answer this we need to have some understanding of how we came to understand our subject. And that will mean getting an understanding of how people learn specific ideas: in other words an understanding of specific educational processes.

It is important to notice that the understanding we require about how our subject can be understood is at the level of specific ideas. Learning about learning has developed greatly in the past 100 years, but our ideas about the best ways to learn have all been remarkably general. Why? Because the scientific paradigms that have evolved since the Renaissance have valued generalisations. But, starting with teaching at elementary levels I expect scientific techniques will be used to learn the best ways to teach specific concepts.

An important part of this process will be the discovery of how specific combinations or patterns of stimuli can interact with specific brain functions at particular times of life to make learning certain concepts and skills much easier. The physiology of learning specific skills is a field I expect will develop with revolutionary consequences for educational standards. These developments will spread upwards to higher education. Indeed the iterative process of survival of the fittest computer assisted learning programmes is already well under way. (The stimuli from a computer screen are much more controlled and precise than stimuli from, say, a television screen.) This is a field where it is fairly evident how information builds on itself and consequently how courses have to be sequenced.

I expect that when this happens we will discover that the ideas we teach do not have to be sequenced or classified in the accustomed way. In other words there will be a breakdown of the ways in which knowledge is currently grouped and there will be new popular combinations of knowledge, new disciplines and new inter-disciplines. Computers are a long way from assisting this process yet, but the development of new computers with vast storage, and new ways of storing and inter-relating information could bring rapid changes. I cannot emphasise too strongly that educational advance on a very large number of fronts is held up because we do not yet know how to breakdown knowledge into its smallest elements and rebuild it in new ways. There is important research here for philosophers and cognitive scientists.

Although there has been little computerization in philosophy so far, the general rapid development in the informational sciences, particularly artificial intelligence, ergonomics and operational research make me optimistic about reflexiveness in education. Amongst educational researchers I increasingly hear it said that the development of educational knowledge awaits the development of new paradigms in educational research, as if the new paradigms will be laid alongside those in the physical and social sciences, and thereby make educational research more acceptable. I don't think the way forward is like that.

I think reflexiveness will be achieved by interdisciplinary research in which the well established paradigms become subroutines in tackling much more complex problems than are currently tackled in subject disciplines. Thus reflexiveness will grow out of, and develop upon, the disciplines that grew up (often in a haphazard way) following the growth of independent critical enquiry. As yet, our conceptions of research are too bound by the traditional disciplines.

The breakdown of traditional disciplines will grow out of criticism of a university education as critical enquiry. Indeed a university education solely concerned with academic excellence is not an education at all. The attitude of academics that despises what is practical because it is not academic, is itself despicable. Professors cannot divorce practical and academic pursuits. There is no sharp line between the two. I fail to understand why dentistry is regarded as academic, while physiotherapy in many countries is not. In any case the dominance of academic criteria for credentials should, and will, be challenged - first in the market place, then in academia itself.

Inter-disciplinary research is increasing, but it often depends upon chance academic friendships and commercial demand. It is not reflexive, because it is not planned or systematic. We don't train people in inter-disciplinary thinking because we have great difficulty in doing it ourselves. We have not reached that stage yet because we have not learned how to break down and resynthesise human knowledge.

The resynthesis of knowledge will herald another revolution in education because it will permit the design of individualised curricula. At the moment we design courses in which we expect to teach and examine the same things for all students. While I accept that some common standards are necessary in education, I think we undervalue the diversity of individuals.

6. EDUCATION FOR ACCEPTANCE

Reflexiveness will produce a great diversity of thought and particular thought patterns will be valuable to solve problems in specific contexts. There will be so many specific patterns that no teacher could know them all and teach them. Each individual will have an opportunity to be unique in his education so that he can be valued as a specialist. Of course you may say that every individual now is different and in that sense each one of us is a specialist; but the important point is that differences in patterns of thought should be intended and valued. Too often at present we despise people who think differently from us, and intolerantly want to convert them to our ways of thinking. We see that conversion as education. (See tolerance and freedom in Section 4.)

I mentioned at the beginning that educational change creates conflicts in social values which can only be resolved by education itself. A feature of the revolution in educational reflexiveness is that these conflicts will be better anticipated so that their reconciliation through education can be better planned. Notice I speak of social reconciliation, a state of mutual acceptance, not persuasion or anything more compulsive. Reflexiveness makes mutual acceptance more feasible.

Another aspect of this is that our present ways of thinking in education are competitive and "contrastive" (if there is such a word). We value people with a certain characteristic, say a university degree, rather than people who don't have it; instead of valuing each person for what he is and what he can do. We classify people in such a simplistic way that their individual combinations of qualities are lost.

Diversity gives an opportunity for the individual to be valued for his unique contribution. We can't all reach the top. Education can be a vehicle for mutual respect and mutual acceptance; at present it more commonly transmits a sense of failure and rejection.

At present our educational system values peoples' labels more than their feelings. It is more concerned with present knowledge than with present attitides and behaviour; and it is more concerned with attitudes and behaviour than with future experience and feelings, or tolerance and open mindedness. Yet tolerance of criticism requires acceptance of oneself and separating issues from egos.

Higher education should be more about attitudes and future experience than knowledge. By "attitudes" I mean dispositions to behave in particular ways. The possession of knowledge and the ability to apply it may be part of those dispositons, but, being inert, it can only assist, not originate action. Knowledge alone can never be an end in itself. Merely to search for what is true and what is good, is not enough.

I look forward to a time when education can be used for self-fulfilment, not in the sense of achieving one's ambitions in competition with others who don't, but in the sense of recognising, respecting and accepting both one's unique value and one's limitations. I think the wider dissemination of psychology could help this. All education is education of the handicapped. We have to use the abilities we have to compensate for what we cannot do.

By "acceptance" I don't mean resignation. One can accept a challenge, but one can't resign oneself to it. I am concerned with an education which helps people to be at peace with themselves and others, not a training for inactivity. Self-determination, an important aspect of freedom, can bring self-fulfilment through a combination of conscious and independent educational reflexiveness.

What is important in education is that people learn to live with each other and with themselves. Conscious planning, professional expertise, using the latest technology, critical enquiry and then applying what we discover to education itself, are all but means to this end.

MAINTAINING AND ENHANCING FACULTY MOTIVATION AND MORALE IN AN ERA OF DECLINE[1]

Martin L. Maehr[2]

University of Illinois at Urbana-Champaign

INTRODUCTION

A number of years ago, I was asked to give a talk on "Faculty Motivation and Morale in an Era of Decline." In order to spice up the title a bit, I decided to subtitle it with the phrase "All dressed up with no place to go..." Granted, this subtitle was a bit non-scholarly, perhaps even a bit "too cute," as we Americans sometimes say.

Aside from this and aside from whatever value the subtitle might have had in attracting a wider audience, the phrase, "all dressed up with no place to go...," was in many respects apt. It seemed to fit the facts, as I knew them at the time.

Referring generally to the faculty of the 80's the phrase, "all dressed up...," summarized a viable set of assumptions about the kind of persons who populate our university/college faculties. Briefly, the facts as I thought them to be were that faculty, generally speaking, are 1) a highly intelligent group, 2) an extensively trained group and 3) a carefully selected group. Most important, so far as my own research interests were concerned, they were also conscientious, responsible, internally motivated, independent and self-reliant.

Regarding the phrase, "no place to go...", I had in mind some of the demographic and economic factors that were likely to dominate higher education in the 80's. There was reason to expect that, in contrast to other times and climes, certain things would happen to faculty, to their places of work, and to the roles they would inevitably play. Faculty could not expect progression so much as regression. Instead of looking forward to the next interesting experience, they would have to confront the possibility of staying in place or merely recycling old experiences. Instead of a wide variety of options, they would experience fewer and fewer options. The grants, the opportunities for travel--and financial rewards--would be less than they had grown to know, expect and love. And so, from our observations of the time, "all dressed up with no place to go..." seemed an apt phrase indeed.

But then I initiated a program of research on motivational changes in adulthood and gave some special consideration to the study of university/college faculty and other professionals. Now that I am considering the preliminary results of that research, I am not at all sure that the catchy sub-title, "All dressed up with no place to go...," suggests what can and should be said about college/university faculty of the 80's.

CHARACTERISTICS OF COLLEGE/UNIVERSITY FACULTY

"All dressed up..." is still probably a reasonable description of college and university faculty, at least so far as motivation is concerned. That is a first and general point to make. Allow me, however, to provide some background for this assertion. More specifically, I would like to describe the general rationale of our program of research and present several relevant findings.

Theoretical Background

Briefly, the motivational model which guides our research is presented pictorially in Figure 1.

Insert Figure 1 about here

In order to flesh out the outline that is presented in Figure 1, several descriptive comments are in order.

The theory that forms our research is a theory concerned with how persons choose to invest their time, talent, and energy. It is a theory based on research conducted over the past twenty-five years or so which has focused on how individuals of different ages and cultural backgrounds relate to differing situations (see, for example, Braskamp, Fowler, & Ory, 1984; Maehr, 1974, 1983, 1984; Maehr & Braskamp, 1984; Maehr & Kleiber, 1981; Maehr & Nicholls, 1980). The term "personal investment" is employed to reflect a particular perspective on motivation. Briefly, that perspective is reflected in three working assumptions of the theory.

1) Motivation is basically indicated by three types of behavior: the choices a person makes, the persistence demonstrated, and the level of activity exhibited. The business of motivation theory is to predict variation in these patterns.

2) Our primary concern is with choice and persistence--the direction of behavior. We assume that a person is reasonably active and the question to pursue is primarily why he or she is active in one way and not another. Thus, motivational problems are not essentially problems of motivating people (i.e., activation or arousal) but rather problems of directing behavior. Generally, we think it is misleading to think that a person is not motivated and that it is more appropriate to suggest that a person is motivated to engage in a certain set of activities. Persons invest their personal resources differently. But, lack of motivation should not be inferred from such differential investment.

3) The theory is a cognitive theory. It assumes that the primary antecedents of choice, persistence, and variation in activity level are the particular thoughts, perceptions, and beliefs that the person has. The best predictors of when the person will exhibit a particular behavioral direction are

embedded in beliefs about self and situation. Collectively, we refer to this as the "meaning" that the situation has to the person.

In broad outline, this theory proposes the causal sequence set forth in Figure 1. Essentially, the figure shows a sequence in which certain factors (antecedents) lead to a given meaning of the situation to the person. Patterns which reflect personal investment follow from such meaning.

Clearly, the concept of _meaning_ is especially crucial in our thinking and rightly deserves elaboration beyond what can be given in this brief summary of the essentials of the theory. However, several statements should be sufficient for present purposes. _Meaning_ may be described as composed of three interlocking facets.

1) _Perceived Options_. Perceived options are the action possibilities or the behavior that the person sees to be available or acceptable in a given situation. A person generally does not choose to do what is not perceived as possible. Likewise, an individual acts in terms of his or her acceptability of participation and that acceptability is dependent upon definitions of self as well as on perceptions of value and worth. For example, an individual will play tennis frequently, if he or she is physically able to, considers it appropriate to do so, and if it is consistent with his or her sense of self.

2) *Personal Incentives*. Personal incentives refer to the motivational focus of the activity. In particular, they relate to what the individual expects to receive or attain through engaging in an activity. Personal incentives are undoubtedly many in number. For reasons of convenience, we have conducted our research with the goal of determining with some confidence a limited set of such incentives that adults indicate are important to them across a wide variety of situations. The set of personal incentives that seem to have particular importance to adults in work settings are set forth and defined in Table 1.[3]

Insert Table 1 about here

3) *Sense of Self*. A person's sense-of-self refers to a collection of perceptions, beliefs, and feelings about him or herself. There are, of course, various ways in which to define this self. In our own research, we have identified three components of self that seem to be particularly important in analyzing motivation in career and work roles. These are likewise summarized in Table 1.

Preliminary Findings

The theory briefly reviewed here suggests a number of hypotheses relevant to understanding faculty motivation and morale. As a first step in our research program, we proceeded to describe selected samples of faculty in terms of these characteristics. This assessment has led to several interesting conclusions. They are not particularly surprising conclusions, but they are interesting nevertheless:

1) Faculty motivational orientation changes at career levels. This particular finding has been set forth in some detail elsewhere (Braskamp, et al., 1984) but has also been confirmed with our more recent research using extensive questionnaire procedures.

2) Different college/universities have different cultures and faculty with different personal incentives and sense of self profiles tend to be found in these different college/university cultures. Figure 2 suggests the kind of differences that we have been finding between different institutions. Portrayed there is a graph of the personal incentives and sense of self profile of faculty from (more or less) church-related liberal arts colleges and research oriented universities.

Insert Figure 2 about here

----

3) Personal Incentives and Sense of Self (and motivational orientation in general) vary with faculty role. Specifically, we have examined the differences between administrators and faculty. While our sample is as yet rather small, the evidence

is that faculty and administrators vary in several important respects, including particularly, in their view of financial rewards. The financial rewards of the job seem to be more salient to faculty than to administrators.

4) Overall, faculty motivation is fairly much as one might expect and, indeed, like it to be. In comparison to other professions and occupations faculty are very task-oriented, concerned with excellence, goal directed and self-reliant.

Enchancing Faculty Motivation and Morale in an Era of Decline

Putting this general, and not particularly surprising description together with what we already know about facilitating motivating conditions, there emerges at least one major hypothesis regarding what can be done to maintain faculty motivation and morale, even in an era of decline. From other studies, we can surmise that persons with the orientations that we have indicated are characteristic of faculty are likely to be most committed, most happy and most productively active when their work environment is relatively free from external manipulation and control. While the faculty "task" in the main almost inevitably possesses inherent properties that should foster "internal motivation" (cf. Hackman & Oldham, 1980), one can detract from this through evaluation procedures and through a governance structure which allows or inhibits faculty participation.

A second, and parallel hypothesis, likewise based in part on findings from our larger program of research, is equally important. That hypothesis is that "open-environments" tend to encourage the development of _task_ and _excellence_ personal incentives in individuals. I think we will get little argument when I insert that we want to continue to have faculty that are fairly likely to be high in _task_ and _excellence_ personal incentives, be _self-reliant_, and _goal directed_. However, the point I wish to make is that to retain this kind of faculty requires retaining a certain culture within the institution. The nature of that culture is at least suggested in our preliminary findings. Generally, the conditions which are likely to enhance faculty motivation and morale (hypothesis 1) will also serve to foster desirable faculty orientations. Thus, maximizing freedom and choice, the opportunity for varied experience and the pursuit of a range of options all serve to create the "typical" faculty profile we have described.

MANAGING HIGHER EDUCATION TO ENHANCE FACULTY MOTIVATION AND MORALE

All of this should make my last and major point self-evident, perhaps even patently obvious. The phrase "all dressed up.." may be reasonably accurate. As our research indicates, faculty are not only highly trained, highly intelligent, highly educated, highly select--a very special group--they are also motivated in a way that we might hope they would be motivated.

However, the phrase, "...no place to go.." is much too pessimistic about the future of higher education. I would submit that there are ways of managing colleges and universities that can serve to match the characteristics of faculty, particularly their _task_ and _excellence orientations_, their _self-reliance_ and _goal directedness_. Not only are there ways to match these orientations, there are ways to enhance them. While much can be said about this point, what I have to say I will say simply and briefly. With decreasing budgets, there is an almost ineluctable trend to "run a tight ship," to evaluate and to enforce administrative control. So far as possible, this trend should be resisted!

When individuals such as Peters and Waterman (1982) talk about the necessity for creating an appropriate organizational culture to enhance productivity in the industrial world, they have found a ready audience. There should also be a ready audience for a similar message to the academic world. If there is one place where we have to stress type Z (Ouchi, 1981) management principles, it should be in academe (cf. Staw, 1983). Here particularly, participation in those things which are considered to be significant to the individual, opportunities for choice and movement in the system, tenure, minimal concern about organizational control, should, of all places, be present.

Unfortunately, budgetary constraints often lead people beyond what is necessary to what is detrimental. Specifically, administrators and their faculty collaborators, all too often fall into a tendency to tighten the reins, reduce the choices, smooth out the organizational charts. My "bottom line" is that this is not only counterproductive, it threatens the very essence of higher education. It is likely to change--for the worse--the most valuable resource higher education has, its faculty.

Footnotes

[1] A summary of an invited address, presented to the Tenth International Conference on Improving University Teaching, University of Maryland, University College, College Park, Maryland, July 4-7, 1984.

[2] These remarks are based heavily on a program of research involving many participants. Larry Braskamp has been my regular collaborator in this research and I wish to single him out for special thanks.

[3] The set of personal incentives and sense of self variables evolved from extensive experimental and factor analytic work (cf. Braskamp & Maehr, 1982; Maehr & Braskamp, 1984; Mayberry, 1984).

References

Braskamp, L. A., Fowler, D. L., & Ory, J. C. (1984). Faculty development and achievement: A faculty's view. The Review of Higher Education, 7.

Braskamp, L. A., & Maehr, M. L., (1983, April). Personal investment: Theory, assessment, and application. Paper presented at AERA Annual meeting, Montreal.

Hackman, J. R. & Oldham, G. R. (1980). Work redesign. Reading, MA: Addison-Wesley.

Maehr, M. L. (1974). Culture and achievement motivation. American Psychologist, 29, 887-896.

Maehr, M. L. (1984). Meaning and motivation. In R. Ames & C. Ames (Eds.), Research on motivation in education (Vol. 1). New York: Academic Press.

Maehr, M. L., & Braskamp, L. A. (1984). Personal investment: Motivation, achievement, and life satisfaction. Book in preparation.

Maehr, M. L., & Kleiber, D. A. (1981). The graying of achievment motivation. American Psychologist, 36, 787-793.

Maehr, M. L., & Nicholls, J. G. (1980). Culture and achievement motivation: A second look. In N. Warren (Ed.), Studies in cross-cultural psychology (Vol. 3). New York: Academic Press.

Mayberry, P. (1984, April). Analysis of cross-cultural attitudinal scale translation using maximum likelihood factor analysis. Paper presented at annual AERA meetings, New Orleans.

Ouchi, W. G. (1981). Theory Z: How American business can meet the Japanese challenge. Reading, MA: Addison-Wesley.

Peters, T. J., & Waterman, R. H., Jr. (1982). In search of excellence: Lessons from America's best run companies. New York: Harper & Row.

Staw, B. M. (1983). Motivation research versus the art of faculty management. The Review of Higher Education, 6, 301-321.

Table 1

Description of Inventory of Personal Investment Factors

PERSONAL INCENTIVES

Task Involvement (TA): Persons are totally involved in what they are doing. They regard the work as exciting, fun, and enjoy adventure and novelty. To them successful people like challenges and like to solve problems. They feel satisfied and positive about themselves when they accomplish something others could not do, understand something for the first time, and are responsible for their accomplishment.

Striving for Excellence (EX): Persons continually think of ways to improve themselves, spend long hours of work to do a good job, like to compete against themselves, don't mind working when others are having fun, and enjoy trying to solve problems others consider impossible. They value work and take pride in their work.

Competitiveness (CO): Persons gain satisfaction and feel positive about themselves when they win, consider successful people as competitive, working hard for promotions and money, and liking to win. They do not feel bad when they beat someone in competition, and they are not afraid of competition even if it is strong. They do not have the need to be popular and are able to look out for their own interests.

Power (PW): Persons seek out and enjoy positions of leadership and authority. They view themselves as alert and are confident in working with others. They trust their intuitions in making judgments and are sought out for advice. They do not like to be bound by other persons, things or events, but instead strive for positions in which they can be in control.

Affiliation (AF): Persons like to be in the company of friends, enjoy helping others even if it means sacrificing personal gains, are friendly, trusting of others, and able to show warm affection to their friends.

Social Concern (SC): Persons gain satisfaction by sacrificing personal gains for others, committing themselves to social and civic causes, and demonstrating a religious commitment.

Financial Rewards (FN): Persons value money, watch carefully their financial status, seek out positions which allow them to receive bonuses and additional income from their work, regard financial status as an indicator of success, and state that monetary rewards motivate them to do their best and to work harder.

Recognition for Accomplishment (RC): Persons want recognition for what they do and work harder when they receive recognition. They work hard so they can receive respect from their co-workers and do their best work when others encourage them and tell them they did well.

SENSE OF SELF

Self-Reliance (SR): Persons enjoy working on tasks that are open-ended, difficult, and challenging. They can work by themselves on difficult projects and do not get anxious if they do not know how well they are doing.

Sense of Competence (SE): Persons have considerable self-confidence, recover quickly from failures and defeat, feel that they can succeed, and view themselves as a "self-made" person.

Goal-Directed (GD): Persons are ambitious, self-starters with definite and difficult goals in mind. They delay immediate rewards for future payoffs and strive for new goals once previous set goals are met.

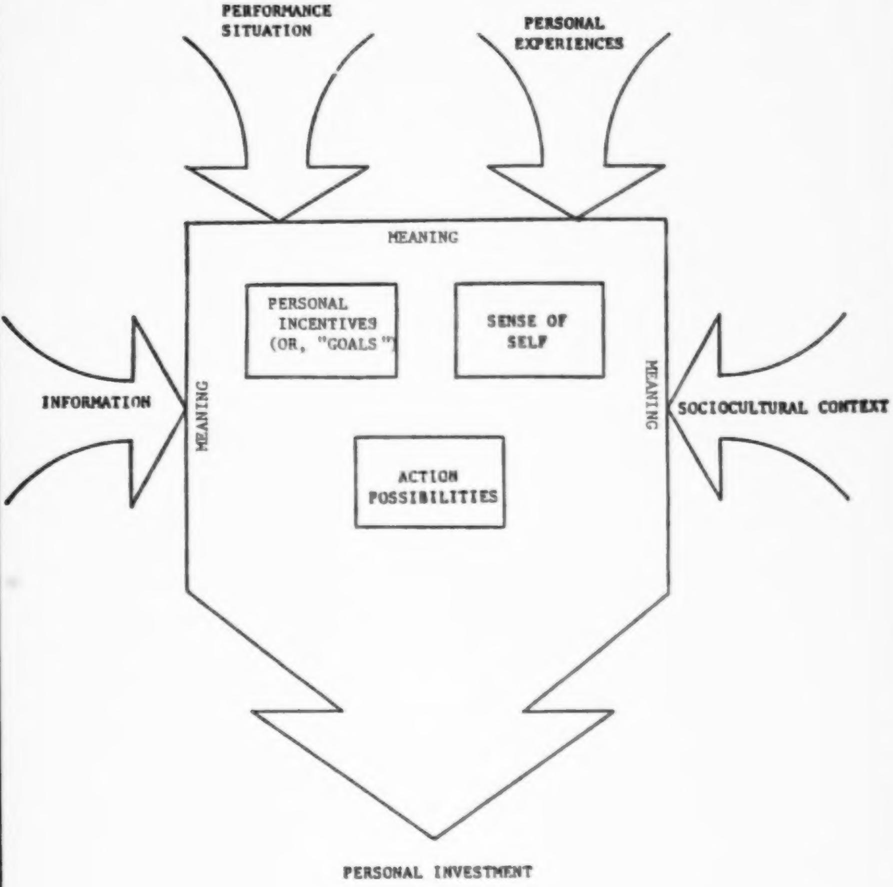
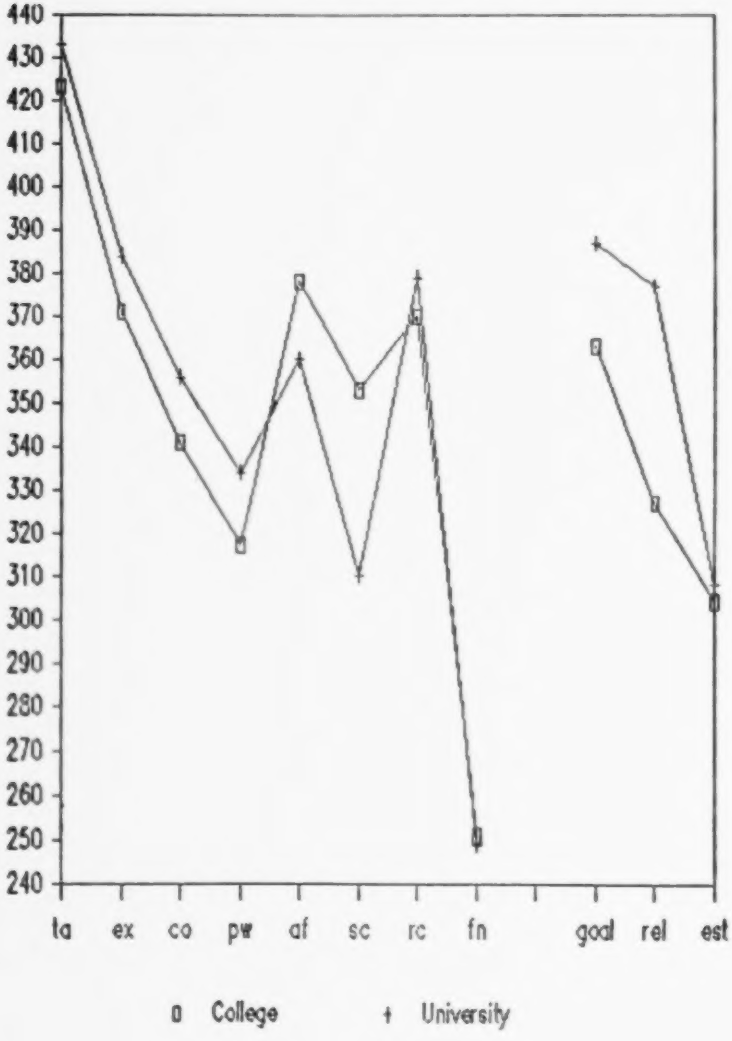

PERFORMANCE SITUATION
PERSONAL EXPERIENCES
MEANING
PERSONAL INCENTIVES (OR, "GOALS")
SENSE OF SELF
INFORMATION
MEANING
MEANING
SOCIOCULTURAL CONTEXT
ACTION POSSIBILITIES
PERSONAL INVESTMENT

Figure 1 Antecendents of Meaning and Personal Investment

Figure 2

Profile of Personal Incentives and Sense of Self for

College and University Faculty



ADAPTING TO THE GROWING PRESENCE OF ADULTS IN UNIVERSITIES IN THE UNITED STATES

MORRIS T. KEETON

COMMISSION ON HIGHER EDUCATION AND THE ADULT LEARNER

Preview

There is a growing presence of adult learners in American universities. In part these adults are on campus. But many are in external degree programs or in special training programs delivered at their work sites. In response to their needs, universities and colleges have introduced substantial changes in the ways, times, and places in which instruction is provided. Less striking changes, but in some instances substantial, have been made in the content of instruction.

These changes are prompted by a variety of factors: a) demographic changes, b)changing national needs, c) growing awareness of research on adult learning and development and d) a widening "learning gap" between the better educated and less educated sectors of the American populace.

In response to society's needs, the Commission on Higher Education and the Adult Learner, created by the American Council on Education, is seeking to stimulate greater access for adults to higher education and to other services of learner support which can be best provided by colleges and universities. The Commission has developed policy papers and will carry out during 1984 and 1985 a Project on Institutional Self-Assessment and a series of regional conferences on adult learning as a key to the nation's future.

Demographic Changes

The threat of decline in the enrollment of young adults in U.S. colleges and universities has contributed to a concern among many institutions to offset the threatened losses with older adult recruits. According to the U.S. Bureau of the Census, the population of 18 to 24 year olds will decline about 16.2% in the 1980's and an additional 2% in the 1990's. While declines in young enrollees have not correlated fully with the fall in that cadre of the population, they have been substantial enough in some regions and institutions to stimulate active recruitment of older adults.

Concurrent with the decline of numbers of youth is a growth in numbers of older adults in the U.S. population: 10.8% increase among 25 to 34 year olds in the 1980's and 30% among 35 to 44 year olds. The percent of degree-credit students 35 and older will grow from 11.8% in 1980 to 17.5% in 1990, according to the National Center for Educational Statistics.

Other changes in the population of the United States complicate the task of understanding the nation's educational needs and planning to meet them. For example, by the year 2030, according to Philip L. Martin writing in Monthly Labor Review (105, February 1982, p. 37), more than 12% of the American population will be immigrants themselves or descended from immigrants who arrived after 1980 even if net illegal immigration is reduced to 100,000 annually and no new entitlements for legal immigration have been enacted. Also, the proportion of women in the work force has been increasing. Between 1981 and 1990 two of every three additions to the work force are expected to be women. During the period 1980 to 2000 the proportion of the American population formed by minority and ethnic groups will increase. Spanish-speaking groups are expected to show exceptional growth.

Overall the impact of demographic changes of the 1980's and 1990's will be felt, not only in the makeup of college and university students by age, but also in their sex, ethnic identity, work roles, and previous educational backgrounds. These differences necessarily affect both how instruction can be received and used by these people and what the content of most needed instruction will be.

The National Need for Retraining and Education

A second set of factors influencing collegiate instruction is the need of the national economy and society for adult retraining and education. I emphasize the nation's need as distinguished from the adults' needs because, for purposes of public policy making, there may be other priorities higher on the legislative agenda than what adults themselves need: housing, medical and health services, welfare assistance, crime control, national defense, or renovation of the transportation and other support systems of the economy.

The Commission on Excellence in Education reported in 1983 that the United States is in a crisis of economic productivity and competitiveness and recommended substantial changes in curriculum for elementary and secondary school students. Ironically, for adult learners already in the work force, who will still make up over 85% of the work force of 1990, that Commission offered only a broad plea for lifelong learning. The Commission on Higher Education and the Adult Learner has independently studied the national need for further education for adults and has concluded that indeed, whatever the other causes of a drop in competitiveness, the U. S. position in international trade will be seriously affected if three areas of need for adult learning are not more effectively addressed: 1) the functional literacy of tens of millions of adults beyond normal school age, 2) the basic employability of an additional cadre of 1 to 2 million people who are or will become structurally unemployed by 1990, and 3) the updating and greater sophistication of the society's work force from blue collar through professional cadres to keep pace with changes in knowledge and technology. A report on the Adult Performance Level Project (U.S. News and World Report, May 17, 1982, pp. 54-55) lists 19% of all adults 18 and older -- 30.2 million people -- as functionally incompetent. Another 53.7 million were "just getting by" in dealing with everyday tasks of computation, managing family budget, solving household problems, being aware of legal rights, being able to read essential instructions, and doing essential writing tasks.

You will notice that some of the content of instructional need here noted is not of college or university level. Should colleges and universities be teaching knowledge and skills of sub-collegiate level? In the United States the public policy is that they should, but that a proper division of labor assigns most work on adult literacy and on occupational and technical competence either to secondary schools, to community colleges, or to noncredit continuing education services of universities. Increasingly state four-year colleges are carrying a portion of this work. According to John E. Roueche ("Literacy Needs and Developments in American Colleges," 1983), the most offered courses in American community colleges were remedial reading, remedial writing, and remedial arithmetic. "As many as 50 percent of any entering freshman class were found in need of essential remedial work." (1968)

In the United States, however, college level learning by adults need not necessarily be provided by colleges and universities: it can be self-taught, and it can be learned in the military services, in corporate training programs, in workshops or institutes offered by entrepreneurs outside of the recognized system of postsecondary education, or in pre- and post-doctoral level offerings provided by professional or trade associations on behalf of their members. The competition among providers to meet high priority national needs will be especially rugged insofar as governmental agencies provide incentives permitting or favoring such competition.

The tradition in the United States has been that the public will subsidize education of youth up through the normal age for completion of the bachelor's degree, but that for older adults further education is a private concern pursued for private benefit. This tradition is, in the light of the national needs just identified, out of date and dysfunctional; but it is nonetheless real. To change it will require an effort worthy of the anthropological label of cultural diffusion of a change in ethos. Curiously enough, in typical American style, we are making this change in fact while clinging to the old tradition as a belief.

Implications of Research on Adult Learning and Development

A growing body of literature reports research on how and what adults learn and on how they "grow and develop as persons." In the United States it is not universally accepted among educators that personal development or even career development is the proper business of all universities, though some institutions have long espoused the development of character and leadership as a major element of their missions. Even some of these latter balk at accepting explicitly the tasks of doing what research tells us would have to be done if we meant to intervene directly through education, counselling, and other support services to elicit these changes.

On a handout prepared for Institute for the Management of Lifelong Education at Harvard (provided as a handout today), I have itemized a few of the findings on how adult learners differ as a cadre from younger ones as a group. They are said to have "more practical" reasons for wanting to learn, being in transitions distinctive to adult circumstances, to be further along in personal development than youth, to be more self-directed, less homogeneous, and freighted with more experience relevant to their studies than are collegiate youth, to differ in their sense of control over the environment, and to be mostly from the socio-economic and educational elites of the population.

Some of these differences have to do with how the adults need to be able to get access to the instruction or services, but do not indicate any needed change in content. Others, however, either call explicitly for different content--for example, immediately applicable work skills and new knowledge about new knowledge in the work area -- or indirectly imply the need for a change in content, sequencing, or instructional strategy -- for example, the information that a typical 35 year old woman is much more complex in her intellectual and ethical judgments than is a 20 year old of her sex and brings to those judgments a more extensive body of relevant experience has great implications as to how philosophy, literature, and history courses for older women can be taught and what can be learned by them.

The American curriculum has clearly been responding to changes in the work place and to learner demands for studies helpful in their careers. A study by R. L. Boaz in 1975 showed over a six year period a decline in general education and growth in occupational training and in subject matter offerings in the realms of social life and recreation, personal and family living, and community issues. More recent data on the reasons adults seek to learn gives the demand side of this picture. (Participation in Adult Education, May, 1981, NCES, Washington, February 4, 1982)

A Widening Learning Gap Between Better and Less Well Educated Adults

For political strength and stability as well as for economic security and well being, the United States must avoid both the injustice and the polarization that can result from having an educational underclass, less schooled than either their abilities warrant or equity permits, and ill equipped to continue their learning to meet the demands of their work and the use of their other opportunities for a good life. The continued existence of barriers to learning, whether the barriers be of race, ethnicity, age, sex, immigrant status, socio-economic class, or limited basic skills, undermines the national commitment to equity and opportunity.

Let me use only two examples out of many possible ones to illustrate the damage that can result from an enlarging gap between the better educated and the less well educated among the people. First, the unemployment rate in October, 1980, for 1980 high school graduates not enrolled in college was 18.9%. For those who had dropped out of school during the preceding 12 months, the unemployment rate was 31.6% overall, but nearly 55% for blacks. Second, under existing federal student financial aid policies, a single working mother with a college-aged daughter can obtain financial aid for her daughter to attend college full-time, but does not qualify for any aid for herself to take either a single college course or as much as a half-time load to improve her occupational qualifications, and potentially thereby to contribute more to the cost of her daughter's education.

The Commission on Higher Education and the Adult Learner is recommending to public policy makers that the public interest requires that both the nation's economy and its agenda of political equity place the support of some categories of adult learning among the highest priorities of the society.

Who Qualifies to Serve Adult Learners?

Not all institutions of higher education qualify as ready to serve adult learners effectively. The Commission on the Adult Learner takes the view that there are more than enough potential providers of the needed services and that only those for whom the adult learner is accorded a significant place in the institutional mission should be encouraged to do this work. In addition, the Commission has developed a guide to institutional self-assessment and planning, which interested colleges and universities may use to inventory and evaluate their own instruction and services in terms of their appropriateness and utility for older adults. Workshops on the use of this Guide will be offered beginning in the fall of 1984 and continuing throughout the calendar year 1985.

Epilogue

In summary, the makeup of the student bodies of American colleges and universities is changing markedly toward a mean age of 30 years or over. Research is also disclosing with growing clarity the ways in which older adults resemble and differ from younger learners. The needs of the American economy for further education and training among adults has changed in both content and magnitude. Curricula and instructional methods will need to change in response to the compound of these demographic and economic changes and this new knowledge about the clientele of American higher education. Since there are other providers of instruction and support services for adult learners, institutions of higher education will face stiff competition for the opportunity to serve adult learners, and rightly so. If the mission of the colleges and universities is to include a substantial component of older adults, then the institutions must learn to know those learners thoroughly, must adjust instruction and its delivery to their needs and to the advantages presented by the option of serving older and younger adults together in some of their programs. Only if colleges and universities take these steps will it be appropriate for public policy to adapt as well to enable them to play the roles they desire in this work.

A Checklist of Distinctive Characteristics of Adult Learner Groups

Characteristic	Source
1. More practical in their reasons for wanting to learn	M. Knowles; P. Cross; B. G. Sheckley; A. Tough
2. In transitions distinctive to adult situations	C. B. Aslanian and H. M. Brickell; Nancy K. Schlossberg
3. At different phases in personal development than typical with youth	R. Kegan, C. Gilligan, E. Erickson, Levinson, Loevinger
4. Having different distribution of learning styles	D. Kolb
5. Tend to be more self-directed than youth	A. Tough
5. More heterogeneous than traditional student bodies?	D. Kolb, A. Chickering
6. Bringing a larger, more varied body of experience relevant to their studies than youth	CAEL studies on prior learning assessment
7. Differ in sense of control over environment	J. B. Rotter
8. Different patterns of potential for learning	J. L. Horn
9. Confronting different array of barriers from those typical of youth	P. Cross
10. Mostly from the socio-economically elite	Harmon and Hunter; P. Cross
11. Mostly from the educational elite	P. Cross; Anderson and Darkenwald

and?

ADAPTING POST-SECONDARY EDUCATION TO CHANGES IN DEMOGRAPHY, SOCIAL EXPACTATIONS AND RESOURCES. THE CASE OF A SMALL COUNTRY.

Lennart Levin

The Swedish National Board of Universities and Colleges, Stockholm

Paper presented at the IUT Conference, University of Maryland, College Park,
July 4-7, 1984

"Adapting" has both positive and negative connotations. It can mean sensible, flexible and practical change in response to new circumstances, but it can also mean ill-considered, ill-advised trimming. A month ago, when the organisation which I represent had the honour of hosting the US National Academy of Education in Stockholm, we spent one session discussing the adaptation of universities and colleges to societal needs of various kinds. One member of the academy, a philosophy researcher from Syracuse University, questioned whether it was at all the business of universities to *adapt* and whether to discuss the role of the university in terms of adaptation was not contrary to the idea and essence of the university. I greatly sympathise with his attidude and myself prefer to view universities and colleges as influential, knowledge - productive and socially critical rather than adaptable, pliable institutions. I am convinced, though, that there are circumstances and conditions - let us for the sake of simplicity term them external - which universities and colleges have to take into account in order to be viable and efficient.

The Swedish higher education reform of 1977, sometimes referred to as the U-68 reform, represents in its way quite a radical attempt to adapt higher education to changing circumstances and requirements. The Swedish attempt, if you so will, to "utilitarianise" higher education has indeed aroused international attention. The April issue of "*Higher Education*", to quote a very recent example, features a comparison between Sweden and the other OECD member states with regard to the "social usefulness" of higher education systems:

> "Of all OECD countries, Sweden has probably made the most conscious effort to analyze and to state publicly what is seen as proper relationship between higher education and society, and indeed to create mechanisms for ensuring that 'needs', if not expectations, will be fulfilled. The 1977 reform emphasized that higher education was to serve the needs of 'the community' in addition to those of the individual". (Fulton, O., 1984.)

Today, 7 years after the higher education reform, it may be appropriate to inquire concerning the effects of the reform in various respects. Seven years, though, is not necessarily a sufficient length of time for any effects to become apparent; some of the fruits of higher education, indeed, can only be harvested in the very long term. Allow me, though, to adopt a pragmatic attitude towards the evaluation and, as I said, inquire concerning the effects of the reform in this short-term perspective.

Sweden is a small country and its political and social structure permits relatively uniform solutions to problems in various sectors of society, higher education not least. It is of course a perfectly open question whether Swedish experience can be universalised to other higher education environments and whether the "Swedish model" would suit other countries, but as a mini-laboratory the Swedish higher education reform, one hopes, is still bound to be of interest at a conference like this. Since the time available to me is naturally limited, I will have to cofine myself to a few questions of principle, and I will therefore omit details and technicalities which could have been interesting in their own right.

I would like to start with the more formal conditions surrounding the follow-up of the reform. Almost simultaneously with the inauguration of the higher education reform in 1977, the NBUC (National Board of Universities and

Colleges) established a follow-up programme. In practice, responibility for this follow-up was vested in Board's R&D unit. The strategy all the time has been mainly to engage independent researchers with special qualifications in the fields concerned, though without any obligations to the administration. A couple of studies, though, have been of an in-house character; in these cases, interestingly enough, the project leaders have beeen exceedingly "system-critical". About 50 reports and publications have been produced as part of the NBUC follow-up programme, which indeed is no small fund of knowledge. Apart from this more organised and systematic process of inquiry, of courrse, there has also been a free and unrestrained debate on the alleged perils and advantages of the reform.

In 1979 the then Goverment - not the same Goverment as had introduced the reform - appointed a parliamentary committee to follow up the reform, or rather to follow up the NBUC follow-up of the reform. In practice, however, this did not make the NBUC - or its R&D Unit - in any way dependent on or subordinate to the parliamentary committee. The Committee gave positive consideration to the studies and findings presented by the NBUC. Later on the Committee was instructed, on the basis of the follow-up, to suggest ways of simplifying the new higher education organisation and also to carry out a review of the new system of study programmes and courses and the associated system of resource allocation. This parliamentary committee, however, was unable to agree on any recommendations and was dissolved when a new goverment took office in 1982.

Now to the point.

The higher education reform as a social reform

There is no mistaking the social commitment, not to say pathos, of the authors of the reform. Realising the social bias of higher education recruitment, which of course would seem to be a universal rather than just a Swedish problem, they epuipped higher education with tools designed to achieve a social equalisation of recruitment. The wider geographical distribution of higher education and the new rules of admission were among the arrangements intended to produce this effect. The Swedish 25:5 scheme, subsequently altered to 25:4, is perhaps the one feature of the higher education reform which has attracted the widest international attention; under this arrangement, a person aged 25 or over who has been gainfully employed for four years is eligible for university or college entrance. It should be noted, however, that this general eligibility does not give slightly older applicants a competitive edge for admission to study programmes requiring special upper secondary school qualifications in particular subjects. In order to study the more prestigious subjects, mature students also have to aquire this special eligibility, over and above the general eligibility I have just referred to. The centralised admissions system i Sweden, as well as the rules governing the selection of applicants in competive situations, have been criticised ever since the reform was introduced as being bafflingly complicated; here I will not go into all the details and subtleties involved. Basically the selection procedure involves dividing applicants into various quota groups, within which they compete with applicants having similar educational backgrounds to their own; for example, 25:4 candidates constitue a quota group in their own right. Selection is based on credentials (or, for the 25:4 group, an educational aptitude test) and on length of work experience.

The Swedish Riksdag (Parliament) has already seen fit to amend the admission requirements in several respects. For example, the provision conferring a bonus for voluntary activities (for example, membership of the committee of a sports club) has been abolished, and at the same time the proportion of higher education places for younger students, i.e. those applying within three years of leaving upper secondary school, has been augmented. Finally, the Riksdag has altered the work experience computation rules and reduced thr credential value of work experience in relation to the original intentions. These alterations have all run contrary to the original intentions expressed in the higher education reform of making things easier for mature students by putting a premium, in purely quantitative terms, on their experience and skills. Referring back to my introductory remarks on the nature of adaptation, it is of course a debatable point whether this adaptation of the admissions system is "good" or "bad"; the answer to this question probably depends on the individual person's basic attitude towards the social purposes of the reform. Unquestionably, what these alterations really add up to is that slightly older students must defer to slightly younger ones. The person who in Sweden has most extensively studied the rules of admission in the Swedish higher education system has the following to say in a report published recently:

> "The benefits in terms of social equalisation which the reform of higher education admission rules was intended to bring about have to a great extent failed to materialise. The costs - in the form of increased competition for marks, formalism and bureaucracy in admission procedures and, in certain cases, unsatisfactory initial qualifications - are not to be disregarded." (Kim, L., 1984)

I should add that Kim's criticism refers solely to admissions for the more long-term, continuous study programmes. Separate single-subject courses make up a very large proportion of higher education activities, and admissions here are subject to completely different rules. Qualifications in the form of school marks, for example, do not play any part because these courses are a stage of the recurrent education so eagerly advocated by U-68.

Sweden has a reputation for wishing to elucidate social problems - and if possible solve them - through the medium of Goverment Commissions. True enough, the Minister of Education recently appointed a parliamentary commission to investigate the possibilities of simplifying the rules, making them more intelligible to applicants and generally illuminating the machinery of the admissions system. The Commission's terms of reference also include an investigation of the possibility of using tests of various kinds to supplement upper secondary school marks and work experience.

The statutory adjustments which I mentioned to the rules of admission have so far been quite limited in scope and rather of the nature of "minor adjustments". This makes it all the more interesting to observe that in the terms of reference issued to the Commission studying the adjustment of the admissions system, the Minister of Education has now called for a study of the feasibility of more thoroughgoing changes.

As regards the social aspect of the higher education reform, I would like to end by drawing attention to a methodically interesting study by Allan Svensson of the University of Göteborg (Svensson, A., 1980). This study is based on three representative random samples (each including about 10,000 individuals) of all Swedes born in 1948, 1953 and 1958. Within each sample, Svensson has investigated all those commencing university and college studies at age 21, i.e. those in each annual cohort who enrolled not later than the autumn term 1969, 1974 and 1979 respectively. This has made it possible to study the changes occurring during the past 10 or 15 years in the recruitment of young persons for higher education. Since the two oldest cohorts began studying before and the youngest after the inplementation of the higher education reform, Svensson was also able to undertake an initial appraisal of the recruitment effects of the reform. He was able to relate individual progress through and success in higher education to social background (using a system of five social strata which he himself has developed) and to cognitive and personal characteristics registered previously by means of comprehensive tests at various school levels.

In a short historical retrospect, Svensson observes that higher education in Sweden expanded very rapidly between 1900 and the period he investigates, i.e. from the end of the 1960s onwards. The graduation rate doubled between 1910 and 1970, and the same protracted period also witnessed a heavy increase in the number of students coming from the lower classes. One out of every 15 graduates born at the turn of the century came from the working class, as against one in every 4 born in 1948.

The interesting point is that Svensson's findings indicate that the trend towards social equalisation observable from the end of the 1960s has now been broken; in other words, university and college recruitment of young persons from the lower social strata has begun to diminish. Why is this? Has equality been taken to the limit dictated by the differences in educational aptitude existing between different social categories? Svensson has no hesitation in replying NO to this question. Even allowing (statistically) for differences in educational aptitude, one still finds almost three times as many post-secondary students coming from graduate homes as from working class homes. It is hard to discern any democratic effect of the reform, especially where more long-term study programmes are concerned, that is programmes opening up opportunities of more qualified positions in society. Social bias in the years succeeding the reform is just as great as in the yaers preceding it. Similar experience of the English higher education system was recently reported by A. H. Halsey of Oxford University in the UK at the Stockholm Conference I mentioned at the beginning of my paper. He employed the term "meritocratisation" to the situation where social characteristics do more than anything else to govern the choice of higher education. Halsey's investigations point to an appreciable growth of meritocratisation recently.

Thus the possibilities of achieving broader social recruitment for higher education solely by reforming educational organisation appear to be limited. Educationally inhibiting factors of a motivational nature in the immediate surroundings of the individual are still difficult to combat. In addition, there are probably quite a few young persons from lower social classes who restrain from higher studies on account of economic barriers. If society finds it essential for these groups to gain access to higher education, other measures, primarily in the form of financial support, housing grants etc. are likely to be more effective. There are survey results (Reuterberg & Svensson, 1981) indicating that this is the case.

One aspect of equality in higher education which I have not touched on is that of the conditions governing education for women and men respectively. Several studies have clearly indicated the underrepresentation of women in higher education, especially the longer, more prestigious degree programmes and - above all - in research training.

The higher education reform and adjustment to the labour market

Through the reform of higher education in Sweden, all post-secondary education was incorporated in a uniform system. University or college status was now acquired by institutions which had not previously possessed it, for example teacher training establishments, schools of nursing and arts training establishments. These "new" higher education departments, then, are included on essentially equal terms with traditional universities in one and the same system.

One manifestation of this uniformity of planning is that higher education is "totally dimensioned", in the sense that the Government and Riksdag specify the total number of students which society "needs" to train at any given time. There is no longer any free and unrestricted sector such as formerly existed in arts faculties. The dimensioning of education is governed by three factors: individual demand, the needs of society/the labour market and the resourses available. In all three of these respects, however, there is greater uncertainty than ever concerning long-term developments. There are no dependable methods of predicting the types of higher education which students will be demanding in the near future. There is some tendency to study employment forecasts and adapt their educational choice accordingly, but on the whole the educational preferences of applicants tend to be a capricious variable. As regards society's need for graduates, all we have at present is general assessments concerning stagnant growth in the public sector and growing demand for graduates in the technical sector. Finally, where resources are concerned, it is hard to predict the speed and persistence of economic shrinkage. Spokesmen for higher education, it is true, argue that higher education and research cannot easily be compared with other sectors of society but are really "above them", being very much concerned with investments in knowledge for the future. The Goverment, it is true, professes in principle to endorse this view, but the outcome of the annual contests for resources remains uncertain and the education sector is hardly likely to be made a sanctuary where spending cuts are unknown. Summing up, my guess is that the dimensioning, or if you will the adaptation, of the Swedish higher education system may continue to present problems. Indeed, it seems almost inevitable that predictions of demand for higher education should have their shortcomings. Previous experience, at all events, shows that trend inflections have hardly ever been predicted. Besides - and perhaps this has its funny side - people who have actually predicted trend inflections have not always been believed. A recent example of this will serve to illustrate this problem. Five years ago the Forecasting Institute predicted an excess output of dentists unless student intake was reduced immediately. Despite this warning, admissions continued on the same scale for another five years, and it was only this year that the Goverment introduced a Bill calling for the discontinuation of dental studies at one of the Swedish universities. This provoked feverish activity in the university town concerned, and ostensibly very heavy arguments were put forward against the closure. To cut a long story short, the Riksdag now decided not to discontinue the studies at the university in question. It strikes me that the importance of another phenomen of Swedish higher education has here been underestimated. In connection with the reform, regional and local boards were set up which included a larger proportion of external representatives - representatives of "the community", industry, enterprise, trade unions and so forth. These representatives are quite often active in municipal and regional politics and usually have direct links with the Riksdag. In other words, if the Goverment puts forward proposals calculated to interfere with the organisation and resources of an individual university, the proposals which appear rational in the sense of being based on evidently reliable forecasts, those proposals still have to be rooted at local and regional levels. If they are not, it would seem that regional and local lobbying can successfully sway the subsequent Riksdag proceedings.

Knowledge of demographic changes, i.e. fluctuations in the size of annual cohorts, is an important foundation of educational planning. Where Sweden is concerned, it is doubtful whether the official picture of demographic changes has provided a relavant illustration of actual changes between annual cohorts. The relatively high birth rates in the early 1960s, representing the cohorts which can expect to enter higher education during the 1980s, have been dramatised in a manner which is open to question; the "bulge" which educational planners so readily refer to has useally been presented as shown in Figure 1 A and not as in Figure 1 B; the latter, unlike the former, suggests rather modest variations.

Educational planning is of course based on the size of annual cohorts, but over a longer peiod the fluctuations in students' educational and occupational choices have been so heavy as to far exceed the demographic trends. In Sweden, the cohorts reaching higher education age in recent years have had a much lower enrolment rate than previous cohorts; the proportion of each cohort going on to further studies in younger years is now descending to the level applying before the refoms of the school system and the expansion of Swedish upper secondary schooling. A similar process is also at work in our neighbouring countries, Denmark and Finland.

Where demographic trends are concerned, an interesting comparison can be drawn with Great Britain. Just as in Sweden, births there increased during the 1960s. The increase there came somewhat earlier, with the result that the "bulge" discussion did the same, but it proceeded on much the same lines as later on in Sweden. In Britain, the connection between the number of young persons and the number going on to higher education was presumed to be virtually linear. In practice it was found to be relatively low. Closer analysis of a few background variables showed, however, that there was a connection between the number of young persons and the number embarking on higher education, that is if allowance was made for social background. The connection between the number of graduates' children and the number going on to university then proved to be powerful ($r^2 = .90$), while in the case of working class children the relation disappeared altogether ($r^2 = .08$).

It seems, then, as if educational planning in Sweden and elsewhere has been somewhat blinded by demographic changes. In future a study will have to be made of the interaction of education and occupation, the development of qualifications in different occupations, the perceived value of various types of education, social selection and - what is most difficult of all - the knowledge accruing from such studies will have to be sensibly fed back into the planning - adaptation - of higher education. Finally, a remark which I think may be appropriate here in College Park. The discussion of the uniform system of higher education and the total dimensioning of education may seem rather an alien subject to the American participants, all of whom represent a more market-oriented system in which universities and colleges, so to speak, sell their services in a state of open competition. What I have to say is that in Sweden now, especially on the part of the small colleges which have been hit extra hard by spending cuts, thoughts are beginning to turn towards marketing on what could be termed American lines. It will be interesting to follow this new type of adjustment to a more austere economic climate.

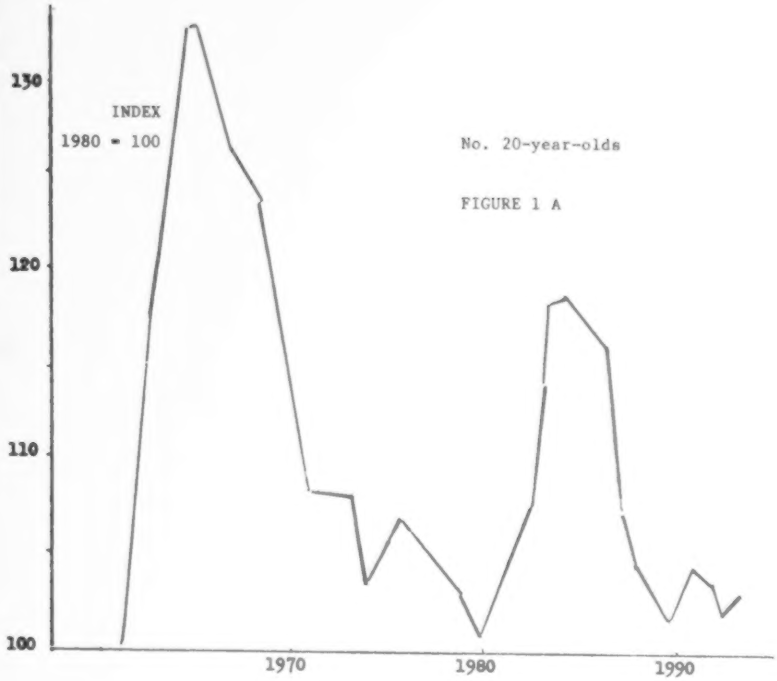


FIGURE 1 A

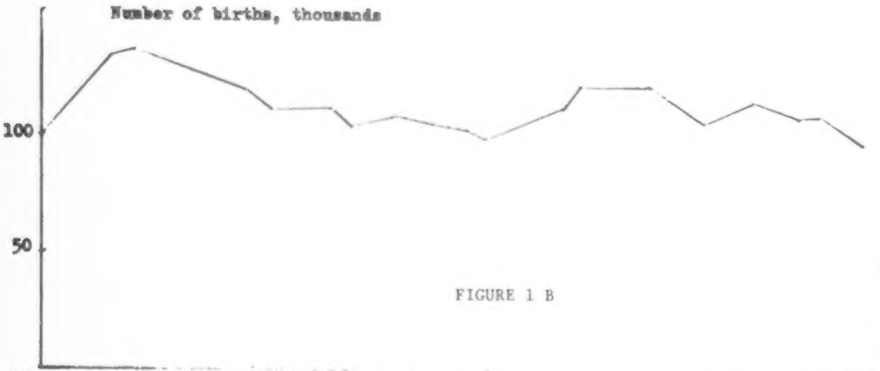


FIGURE 1 B

The higher education reform and dwindling resources

Before going any further I should make it clear that spending cuts in the Swedish system of higher education have been quite moderate by international standards. To a Swedish observer the cuts which have taken place at certain British universities between 1980/81 and 1983/84 - Salford (40%), Aston (28%) and Bradford (20%) - seem pretty drastic. Adding to this the irritation which has been provoked by the University Grants Committee (UGC) merely stating in general terms the principles governing its award of grants, the situation in Sweden seems idyllic.

All the same, the effects of spending cuts on various studies have begun to arouse attention in Sweden too, both centrally and locally. Have these spending cuts produced any noticeable deteriorations? In studies of this kind, of course, it is hard to isolate the effect of a particular independent variable - changes in resources - and it often takes a long time for changes in educational results to become apparent. The problem of cause and effect as regards the educational impact resulting from fluctuations in resources has been remarked on, for example, by Dressel (1976):

> "Adjustments in the face of resource constraints are made in the most obvious way, accomanied by assertions that quality is being endangered. But no supporting evidence is available and no consideration is given to whether complete program restructuring might maintain, or even improve, quality with no increase in costs". (page 451)

It is perhaps worth recalling the way in which two institutions not far from Maryland have been trying recently to cope with a shortage of resources.

Following heavy cuts at the end of the 1970s, the University of Michigan decided to cut out an entire subject field (geography), while at the same time deciding not to allow other activities to stagnate. One per cent of the shrinking budget was therefore earmarked for development work. The experiment has been described by Melchiori (1982), but perhaps there are people present today who were involved and can tell us the story.

During the drastic spending cuts of 1975/76, the City University of New York began rationing materials and reducing services, especially those referred to as "other than personal service", and when these efforts were no longer enough, an attempt was made to cut out certain study programmes by various criteria. Instead of going into detail I can refer to a report by Alfred (1978); suffice it to say that the study programmes discontinued were mainly those intended for "non-traditional" students, mature students and students without formal qualifications.

Do the Swedish studies show the cuts, which upon average have been 2% per year, to have had any educational or other consequences? Most investigations have concerned the two fields which in relative terms have been hardest hit, namely teacher training and training for care professions. The findings are ambiguous and do not reveal any straightforward connections between resource inputs and results. Despite heavy cuts in teacher training, the number of graduates is still running high. It is primarily the practical elements of teacher training that have suffered; trainee teachers now have less opportunity of acquiring teaching experience at different school levels and in schools of different kinds. The practical training thus eliminated has been replaced with individual or group assignments of various kinds.

It is quite clear that a qualitative change is involved. Whether this amounts to a deterioration or an improvement will depend partly on the importance one attaches to practical as against theoretical elements of training. So far the spending cuts have not necessitated any staff reductions. Instead, vacant appointments have been left vacant and temporary staff have not been taken on as extensively as before. This, on the other hand, means larger groups, with small groups instead of individual tuition, lessons instead of small groups and lectures instead of lessons. Private study has taken the place of some instruction. But no definable negative educational effects have yet been identified.

Some departments have displayed great ingenuity and energy in seeking funds from non-governmental sourced; I have already referred to signs of American-style marketing.

Summing up, then dwindling resources have not yet produced any thoroughgoing changes. Cuts have been effected by cheeseparing rather than amputation surgery. Clearly, it is easier to distribute adversity equally than it is to take such radical steps as the case I just mentioned of the University of Michigan, where an entire discipline (geography) was excised. Many institutions have reported that the successive depletion of resources and, accordingly, teaching density and teacher ratios is an insidious process, because the quality of education changes almost imperceptibly from one year to the next. This infinitely gradual process of change proceeds conjointly with a transformation of the age structure of the teacher and researcher population of the Swedish higher education system. Some studies indicate a serious risk of the university teaching profession "ageing collectively". Not many new people can be hired, and the age profile is coming to be the opposite of what we have been accustomed to. Probably this process has already begun. If nothing is done about it, there will be a serious risk of education and research losing their vitality. In terms of adaptation, the Swedish higher education system may be said to have adapted relatively well so far to the new regime of austerity, but the future gives cause for concern. Both efforts and tact - why not something resembling the British "new blood" experiment? - are called for.

The higher edcuation reform as a pedagogical reform

I had not originally intended to broach the theme of this heading, but since the IUT Conference focuses on the nerves and inner life of universities, on teaching and learning and the possibilities of improving them, I would like to touch on the subject very briefly. The Swedish reform of higher education is an organisational reform and does not concern the content and pedagogical forms of education. Some of the representatives of the reform dislike having this fact pointed out to them, while others deny it. What they usually mean is that the new organisation of studies (giving the individual student an opportunity of choosing between a general study programme, a locally planned study programme, an individually-requested study programme or what is known as a seperate single - subject course) and local liberty concerning the construction of syllabi make the reform far more than a question of organiation. Furthermore, it is remarked that the entire reform involved the establishment of a system of recurrent education and was preceded by close discussions of the necessity of adapting education to new student categories, above all mature students with no academic background.

As I see it, this reaction to criticism of U-68 for not being a pedagogical reform is as misguided as the criticism itself. The University Pedagogics Commission - yet another Commission! - was already at work when the U-68

Commission was appointed, so that U-68 had good reason to avoid unnecessary duplication. Then again, U-68 could perhaps have pointed out more clearly than it actually did that pedagogical renewal cannot be commanded from the top but results mainly from commitment and a willingness to change on the part of teachers, researchers and students.

The following points can be mentioned concerning the University Pedagogics Commission, which consisted of researchers and teachers. It was appointed with the aim of "rationalising" university teaching during the heavy influx of students at the end of the 1960s, at the point of transition to a mass university. Looking back, it is interesting to see how centralistic that committee was in its way of thinking; for example, it recommended centralised inspection and supervision of syllabi, national co-ordination of degree examinations in all subjects, and so on. Fortunately none of these proposals was ever put into effect. One proposal which did take effect, however, was that resources for educational research and development should be allotted both to the central administration and to the universities. Added to which central and local units were set up for this purpose. These resources still exist but in times of austerity they are particularly interesting candidates for economisation because every fiscal year they constitute "new money". When I interviewed members of the Commission retrospectively a couple of years ago, they were almost embarrassed at the centralistic view they had previously taken of educational development work and renewal; in their defence they mainly pleaded the prevailing ethos of the time, especially the teaching technology euphoria which then held sway. If, then, we may return to the U-68 Commission, they had no reason to concern themselves directly with pedagogical questions. One can, of course, argue that they did so indirectly through their proposals regarding the organisation of studies and through their demands, most of which however were purely rhetorical, for an adaptation of higher education to non-traditional student categories.

The new organisation of studies introduced through the reform of higher education resulted among other things in the individual department having to plan and conduct studies in a certain programme (for example, the "Liberal Arts Programme") together with other departments. A programme committee, as it is called, is responsible together with the departments for the pedagogical planning of the study programme. Surveys hitherto have shown this type of organisation to involve both debits and credits. On the credit side we have interesting attempts at educational renewal and at supplying students with better information concerning educational content. On the debit side we have above all the difficulty of combining a discipline-oriented base organisation with a programme-oriented organisation of studies, and the very serious tendency towards the depletion of certain disciplines. At a symposium on the subject of "the internal work of higher education" at Sweden's northernmost university last autumn, there was heavy criticism, almost acrimony, concerning the programme system established through the reform of higher education. One paper submitted to this symposium read: "The programme system operates in such a way that the life or death of subject departments hinges entirely on short-term considerations. I see no reason to accept the true or alleged usefulness of education in working life as a kind of overriding ideology. There are other reasons why we need different disciplines at a university."

Then what about the new student categories, the 25:4 students or mature students, and their job experience? Have they adapted to the reformed system of higher education, and has the system adapted to them? Taking the latter question first, that of the adaptation of higher education to students, a number of case studies have been made in degree engineering studies and teacher training, among other fields (Abrahamsson, 1982). Generally speaking, the findings point to a great deal of variation as regards the function of work experience. Engineering students with work experience came to constitute both "risk and resource students" in technical studies. They were risk students in the sense of having a heavier dropout rate than ordinary students, but they were also a resource because in the teaching situation they frequently had creative "angles" on technical problems. The survey team observed a certain diffidence towards the non-traditional student category, who were alleged to be wangling their way into places that ought to have been reserved for young students.

In the studies of class teacher (junior school teacher) training, the main value of work experience was the social and personal preparation it provided for studies and the subsequent profession. Experience of the social climate at a workplace seemed to give the prospective teacher useful equipment for achieving good working conditions in schools. A person who has been directly involved in resolving a conflict at work ought reasonably to have less difficulty than others in overcoming such problems in the classroom. It is doubtful, however, whether work experience constitutes knowledge which can be directly utilized in studies.

Certain findings also suggest that teachers quite often have a preconceived notion of mature students as being unfamiliar with educational activity, with the result that teaching comes to be rigidly structured and examinations based on traditional, school-like patterns (M. Bertilsson et al, 1982). The same author observes: "It is not very helpful to dish out smug recommendations about adapting education to adults, basing it on the participants' experience and so on. The interesting point concerns the organisational measures that have to be taken in order for this to be possible".

Thus investigations of the adaptation of teaching to students convey a variable picture. I have derived a similar impression from informal contacts with university teachers. Some of them regard the non-traditional students as a threat to teaching and teaching quality, while others appreciate - and make various attempts to utilise in their teaching - the experience possessed by adult students, their intellectual curiosity, the way in which they query things and, in some cases, their contentiousness. I hope that participants at this IUT Conference will be prepared to contribute examples from their ample experience as teachers.

We are better informed concerning the adjustment of mature students to the system. They tend to study part time, mostly in the evenings, and they study without necessarily aiming for a degree. There are no conclusive survey findings to show that these student categories on average are inferior or superior to others where educational achievement is concerned. In public debate in Sweden, however, the half-speed studies pursued by mature students have often been described as "well-subscribed soirées" and "hobby activities" detrimental to higher education in general and to the quality of activities in particular. A recent survey of a relatively exceptional group of mature students (aged 55 and over, the oldest being 79) at the University of Göteborg, however, showed them to be very anxious to retain the statutory right to higher education which the reform had given them. This is underlined by the following words of a woman student born in 1920: "All my life I have provided a small part, but a part nonetheless, of the university budget. So why should I be debarred from drawing on its services? After all, the older I have grown, the more I have had to pay in proportion to my income."

Concluding remarks

The reform of higher education was not characterised by a distinctly formulated view of education. In so far as any educational concept at all was put forward, it was by negating the concept of academic education. Instead efforts were made to achieve an egalitarian policy whereby the traditions of science and working life would fertilise one another. This attitude was not primarily manifested in syllabi and subject content but rather in the idea of recurrent education, evaluation of the student's work experience and a greater measure of influence for representatives of working life in the various regional and local governing boards. The collision between academic and non-academic codes of values has been violent and I am convinced that the debate concerning the means and ends of higher education will last for a longer time.

In a situation of this kind, there is not really very much point in asking whether the reform as a whole was a good or bad thing. Various aspects of the reform will, as previously, have to be elucidated by means of a debate in which various codes of values are represented and by a more run-of-the-mill but, one hopes, valuatively more neutral study of higher education activities. The NBUC programme for research into higher education has, for example, included support for a project concerned with investigating the use of research findings in governmental planning. The researcher in charge has launched the hypothesis of "the primacy of the planning process", meaning that social decisions in problem fields illuminated by research *can* but are not necessarily based on research findings. The decision maker has the perogative of deciding whether or not to utilise research. This hypothesis may cause dismay among R&D representatives hoping that their findings will become the guiding star of practical policy, but the pragmatist with a sense of the power structure in society will find it plausible.

Several of the problems of Swedish higher education which I have touched on here have not resulted from the reform - a fact which critics tend to overlook. Sometimes they also overlook the fact that the U-68 Commission in itself provided Swedish higher education with a first-rate shot in the arm through the comprehensive studies which it undertook and through the debate which it started, a debate which is still going on today. The adaptation of higher education to various societal needs, one of the cornerstones of U-68's philosophy, is under heavy fire from academic quarters. To other observers, this adaptation is a sign that higher education has become, or is becoming, a more vital, variegated and humane social institution.

To me it is a great privilege to be allowed to take part in the R&D work aimed among other things at a continuing study of events in Swedish higher education. The period that lies ahead of us will be in equal measure austere and exciting.

Bibliography

Abrahamsson, K	*Vad är den goda erfarenheten värd?* (How much is good experience worth?) Liber, Stockholm, 1982. ISBN 91-40-70836.
Alfred, R.	*Coping with reduced resources*. New Directions for Community Colleges, No. 22. San Fransisco: Jossey - Bass, 1978.
Bertilsson, M. et al.	Högskolestudier och arbetslivserfarenhet (University studies and working life experience), Report from the University of Lund, Department of Sociology, 1980.
Dressel, P.	*Handbook of Academic Evaluation*. San Fransisco: Jossey - Bass, 1980.
Fulton, O.	"Needs, expectations and responses: new pressures on higher education". In "*Higher Education*", 13 (1984), pp. 193-223.
Kim, L.	Att välja eller väljas (Choose or be chosen). Report from the NBUC, Stockholm, No. 1983:4. ISSN 0281-3335.
Melchior, G.	"Smaller and Better. The University of Michigan Experience. *Research in Higher Education*, Vol. 16, No. 1, 1982, pp. 55-69.
Svensson, A.	On Equality and University Education in Sweden. *Scandinavian Journal of Educational Research*, 1980, 24, pp. 79-92.
Svensson, A. & Reuterberg, S-E.	Studiemedel som rekryteringsinstrument och finansieringskälla, (Student benefits as recruitment instruments and a source of finance). Report No. 1983:1 from the NBUC, ISSN 0281-3335.

TOWARDS NEW CONCEPTS FOR BETTER COOPERATION BETWEEN HIGHER EDUCATION AND INDUSTRY

Jean MICHEL
ECOLE NATIONALE DES PONTS ET CHAUSSEES, PARIS-FRANCE

I should like to begin this talk by a word of thanks to Ben Massey and also to Marcel Godschmid for giving me the opportunity of speaking at this Conference.

My presentation, to day, is quite an effort because of three difficulties :

* The first one is to communicate in a language which is not familiar to me.

* The second difficulty is related to the french context in which I work daily. In France, there are two different systems of higher education : the Universities and the Grandes Ecoles (schools of engineering and management). The Grandes Ecoles system in which I act does not consider the improvement of pedagogy in the same light as the Universities do.

* The third difficulty for me is to try to forget the engineering context. Developing links between industry and higher education is much more obvious in or for engineering field than in others. If my outlook is to be broad, it cannot be based on an extension of what is done in engineering education.

My objective in this presentation is to question the relationship between higher education, industry and professions. I also wish to demonstrate that new ways can be found for the near future and this demonstration will be in four steps :

- a historical view-point.
- a typology and a criticism of the various kinds of cooperation.
- a definition of new concepts for cooperation.
- some concrete proposals for improving the partnership.

I - A HISTORICAL VIEW-POINT : PERMANENCE AND CURRENT EVENTS

Cooperation between Higher Education and Industry is not really a "New Thing". But it is becoming the core of new developments in higher education.

From a historical view-point, it is interesting to note that this debate existed long ago. For example, in France, the first and most important Grandes Ecoles were established, in the middle of the 18th century and during the first par of the 19th century. The role of these Schools of Engineering was strictly profesional. They had to train engineers to design and manage projects for the State and for the young industry.

In his book intitled "Le Catéchisme des Industriels", published in 1820, Saint Simon, a french author, advocated the development of links between the scientific world and industry. For Saint Simon, the industrial society must indicate the route that scientists should take.

In France, in Europe, and in North America many Schools of engineers were created with strong links with industry and professions : for example the Ecole Centrale in France founded in 1829 or the MIT in the States, created in 1865.

Reciprocally, the professional institutions, like the french Société des Ingénieurs Civils or the American Society of Civil Engineers founded in 1852, or again the American Society of Mechanical Engineers founded in 1880, rapidly became interested in engineering education.

The Society for the promotion of Engineering Education founded in the States in 1983, and later called the American Society of Engineering Education worked strongly with the professional Institutions. In 1907, for example, they decided to do an important survey for improving University education.

Let us look at recent events or proposals.

For the seventies, I wish to mention people such as french "Bertrand SCHWARTZ". In his book "l'Education Demain", published in 1972, SCHWARTZ dealt with the development of systems allying professional and educational contexts.

He suggested three ways of doing this :

- one, is cooperative studies, sandwich courses or as we say in France, "Alternance" ;
- a second way is continuing education (you know the development and the importance of continuing education, now) ;
- and the third, is education outside or off Universities, or education outside educational institutions ;

Recently, in 1983, UNESCO published two books :

- one is a monograph by Wilfred FISHWICK, intitled "Strengthening cooperation" between engineering education and industry ;

- the second is an issue of the Journal "Higher Education in Europe", which is devoted to the partnership between higher education and industry.

At the same period, in Britain, the FINNISTON Report proposed to improve engineering education, especially by creating better links between the Universities and the professions.

And last, but not least, the recent french law on higher Education, voted in March 84, gives priority to the "professionalization" of education within the Universites.

From that historical view-point, one could consider that the cooperation is not very new, and that people are in favour of such cooperation.

But one could also be provocative and ask why we should be discussing this topic at all.

Seriously, we must note that the partnership is not developed sufficiently. It is more of a marginal circumstance than a real factor of innovation.

2 - THE VARIOUS KINDS OF COOPERATION : TYPOLOGY AND CRITICISM

In the UNESCO monograph, FISHWICK considers three main groups of cooperation :

- one is direct assistance to colleges by industry ;
- a second is the assistance that colleges offer industry ;
- and lastly, the cooperative ventures, between industry and colleges.

For the direct assistance to colleges by industry, FISHWIDK mentions a long list or around twelve items : curriculum design, college councils and boards, part-time teaching staff, advice on research topics, loans and use of equipment, visit to industrial firms, acceptance of students for industrial training, undergraduate and post graduate project work, industry based projects, sponsored projects, engineering case-studies, secondment of enginners to colleges and lastly, college staff on leave in industry.

For assistance that colleges provide to industry, there is a list of some ten items : the use of the resources of the colleges, the use of college equipment college staff as consultants, interfacing units-between colleges and industry, industrial liaison offices, contract offices, contracting through limited companies, special research and design units, difficulties arising from special units and, lastly, professional training courses.

The third group, Cooperative Ventures between industry and colleges, contains seven items : joint appointments, interchange and secondment of staff joint conferences and seminars, joint research and development projects, joint curriculum development, and also schemes like the British "Teaching Company Scheme".

In the other UNESCO'Issue, Gerlinda MELCHIORI presents the various factors of stimulation of the cooperation. Using the results of a National Science Foundation survey, done in 1982 and based on the analyse of 340 links between american universities and industry, the author shows the determination of each partner in or for developing cooperation.

Thus, for higher education, it consists mainly :
- in new financial resources for students and for research ;
- in opening research on the real world ;
- in providing incomes from patents, etc...

For industry, the interests for cooperation are :
- recruitment of personals ;
- opening of industry on science and technology ;
- assistance for technological improvement ;
- access to various Universities resources ;
- increase of productivity by using better educated people ;
- and, quality of life, due to the proximity of University.

Examining these two lists, I would like to do five short comments :

a) First of all, the problem of cooperation is very vast and complex. There is no unique and simple solution.

b) Second comment : we observe the justaposition of old and permanent schemes, and of new kinds of cooperation. Traditionnally, for example, the claim of the professions is to participate in the design of curricula, because they are interested in recruiting better trained employees. But now, there is a trend toward ventures for research and innovation.

c) The thirdcomment, is about this new trend : the emphasis on cooperation in research and innovation more than in education.

d) Fourth comment : I feel there is also now a new trend towards more balanced cooperation. Higher education and industry seem to be on the same level of responsibility within the cooperation. They need each other.

e) Lastly the fifth comment, is that cooperation in and for education seems to be too much traditional or conventional. Nothing is very new in that matter. So can we change this ?

3 - NEW CONCEPTS FOR CREATING ANOTHER COOPERATION

An important question for us, educators, is "how to adapt education to the needs of the society". I feel that we can find good answers through new kinds of partnership, related to new concepts.

I would like to present and comment four of these concepts :

a) Firstof all, the concept of professionalization of higher education. It means that education at the University level could be much more finalized than it was in the past. It means that higher education could be based much more on the satisfaction of the professional needs, than on its own and specific development. It means that we have perhaps to define new approaches of higher education in which there is an integration of cultural an educational components, and of professional aims and needs.

b) Second concept, the concept of complementarity and synergy. If we need much more integrated programmes for education, we must reject approaches that systematically oppose higher education and industry. The partnership must be based on a real complementarity and on the synergy of the resources and of the interest. It means a mutual and real understanding of each other.

c) The third concept is something I wish to call the macro-view-point concept (the "Macroscope") or again the concept of macro-pedagogy

Improving University teaching is good and necessary, but it is not sufficient for creating more integrated educational programmes. Improving teaching, or the classical pedagogy, must be enlarged and strongly bound with the definition of politics, strategies and management of education. The macro-view-point allows to define the global approach for the design of educational system. The macro-pedagogy integrates the partnership or the cooperation between the University and industry.

d) Lastly, the concept of diversification of the educational projects and activities. It is becoming more and more difficult to separate the various components of the "knowledge-industry", "knowledge-service". Education, but now research, and also diffusion of information constitute the three main sectors. But we can also mention Continuing Education and other items. Don't you feel that we are now at the beginning of a new era for higher education ?

e) At this point, and before presenting the fourth step of my demonstration, I wish to add another concept or rather to introduce an important actor to you : the student. We often forget him. The new partnership, the new macro pedagogy, must not be developed to the detriment of the student. Personally, I do not see any serious cooperation between industry and university, for education, without a strong participation of the student. The partnership must be tripartite.

4 - SOME CONCRETE PROPOSALS FOR AN INNOVATIVE EDUCATIONAL PARTNERSHIP

I should like to insit on five proposals.

a) the first is "reinforcing, supporting, and developing the existing patterns or schemes, based on a partnership.

Project pedagogy, sandwich courses, etc..., we all know that. But even if these patterns work as well as possible in engineering education, for example, they are not systematically used in higher education. Too little pedagogical research is done on these patterns, on their uses and their results, on their possibilities and their limitations.

I personally should like to suggest four recommentations on this topic :

- to use these patterns, more systematically, without hesitations ;
- to develop a deepened pedagogical research on these patterns and their uses ;
- to redefine the partnership and the role of each partner within the context of these schemes ;
- to prepare professors, as well as people in industry to play a better and perhaps a new role within these existing patterns.

b) Second proposal : reinforcing and developing the mobility of people between the two worlds

A certain amount of mobility exists. This in France most of the teaching staff, within the Engineering Schools work in industry. Reciprocally, students often have the possibility to have practical experiences within the firms.

But generally speaking, we are far away from what could be an ideal. Mobility remains limited.

We must develop it, and do it in two ways :

- one is to make it possible for students, as well as professors, spending a certain time within industry ;
- a second way is to provide the opportunity to the staff of firms to come to the University either for studying (continuing education) or for teaching (part time teaching) ;

c) Third proposal : organizing the transfer of methodologies between the two sectors

Beyond the obvious difference in their aims and in their productions, University and Industry are also different in their use of specific methodologies. But we need now transfer or interchange of methodologies.

Thus, higher education might find it good to use new methods that appeared during the last 20 years in most industrial firms. Among these methods, I should like to mention Value Analysis and Value Engineering, Design to Cost, Quality Management and Quality Circles, etc...

Why don't you, don't we imagine the creation of Value Analysis Groups or Quality Circles within our Universities for improving higher education ?

Vice Versa, industry could look at and use the pedagogical methods and research methods developed within the Universities. We often speak to day in France of the educational responsibility of industrial staff. An engineer, for example, has frequently to educate and to train people ; He must transfer information. But is he really prepared to play such a role. Does he know the methods which facilitate learning processes ?

d) My fourth proposal will be "Cooperating for production and diffusion of educational and informational products

There is to day, a truly explosion of supply and demand for educational and informational products. New technologies emphasize this trend. It would be regrettableif industry and university dit not cooperate in this field. And for example firms could bring data, information, but also technologies an finances. The universities could bring to the cooperation their ability to structure information and knowledge, also their pedagogical methods and lastly a potential market.

e) My fifth and last proposal is more ambitions : creating new schemes, new schemes, new structures for that I call "Co-Education"

Education is no longer the monopoly of Universities-Industry is more and more concerned by providing education and training, either for its own employees, or for students doing cooperative studies.

The future of education could be perceived through the creation of new schemes, new structures, new institutions compling the interests and the resources of the two partners. These new schemes of Co-Education could be based on global contracts for specific educational activities. And for example, for particular sectors (let'say lectronics for instance), one could imagine new co-educational and global schemes, integrating basic or first education, projects work, sandwich courses, contiuning education and why not also recruitment considerations.

XXXXXX

XX

I wish now to conclude very briefly and simply. As far as the partnership is concerned, I should like to say that, more than in the past we have to explore new ways. It is a necessity for the University as well as for industry.

HIGHER EDUCATION, INDUSTRY AND THE PROFESSIONS: MAKING THE PARTNERSHIPS WORK

Barbara W. Newell
Chancellor
State University System of Florida

Submitted to

Tenth Conference
Improving University Teaching

University of Maryland
University College

July 1, 1984

> I believe that the remaining two decades [in this century] will see a revolution based on high technology. I think the leadership will emerge from those countries which have the strongest science and technology base, which are able and willing to make major capital investments, and which have a level of education of the public and the work force worthy of the new technologies that will emerge. The economic viability of the University System in the next two decades will depend on how well we perform in all these areas. (Press, 1982)

The importance of technical knowledge is an increasingly striking characteristic of our post-industrial society. Intensifying the effects of a shift in technology has been the change in American foreign trade and competition. We have had little incentive to look abroad, and little competition from abroad. But the decade of the seventies has seen a gradual shift in the trade balance. Today America is a part of the international markets and is involved in stiff competition. Many of our foreign competitors have strong government support for industrial research and innovation. As American industry better positions itself to compete internationally there must be reexamination of the interaction of the university with industry and government.

Today, the trend toward increased technology continues. The race in the knowledge-based industries has made all units of government -- cities, states, and Federal -- examine issues of research and technology. Government has asked how education could effectively join with American business to create new products and to bolster the economy. New research modes and diffusion mechanisms must be invented in order to meet the challenge. It is possible to borrow from past experiences, but the fit is not perfect. The differences between the agricultural sector and today's industrial sector limit the applicability of the agricultural extension model to industry. In agriculture there are few proprietary interests and brand names. By and large the market is competitive and the entrepreneurs are too small to engage in proprietary research. By contrast, the businesses that approach the universities are now speaking of proprietary secrets and patented products.

Federal funds for research have been drying up so business and educational institutions must be based on mutual self-interest support rather than federal funding. A central issue in this new interdependence will be to determine how to create a partnership between an industry looking for profitable applications of innovative ideas, and the university research community, whose basic charge is to explore knowledge for knowledge's sake. University and industry leaders have begun to explore these differences in values and institutional "culture". Accommodations are being reached, most frequently on an ad hoc basis.

How should universities approach this new relationship with business and industry? The general guidelines drawn by Chancellor Danforth of Washington University (ACE Conference, October, 1983, Toronto) for universities that are examining their relationships with industry are extremely useful. His points are paraphrased and elaborated below:

- A university is not a business. Profit is not its goal. Knowledge is its business. The creation and dissemination of knowledge must remain central to their value system.

- In the United States the university has been the home for basic research and the universities have served the U.S. well. There are few alternative institutions to provide the basic research function. If the U.S. does not keep basic research healthy it will, in effect, be eating its seed corn.

- Faculty must be free to choose their own research problems. This does not guarantee funding, but freedom of inquiry is essential, not only to maintain the free market place of ideas in the academy, but also so that researchers may follow an idea as they see fit. Much of scientific advance has been the product of the serendipitous.

- Freedom to publish graduate work is basic to the free exchange of ideas, and as a tenet is fundamental to a university in an open society. Open access also pays from the viewpoint of advancing knowledge. New techniques, just the knowledge something can be done, are often of assistance to other researchers.

- University faculty reward systems should reflect their job values and not underscore research for personal gain.

- Faculty are there to serve the university. Faculty allocation of their time should reflect this responsibility.

- Universities should establish support for faculty in their dealings with business. An example would be in the areas of conflict of interest.

- Each university must work through the question of what its business and investment relationship should be with faculty members. In this arena, there is a wide diversity of practice. We can learn from each other over time.

- The bottom line is that the business and university communities must know themselves before they enter into contracts and they must stay true to their own sectors if such partnerships are to gain the strengths of their complementarity.

The area of faculty rewards may be particularly troublesome. Faculty members whose work is on the cutting edge of research can excite the next generation and it is this person who is most apt to find the academy rewarding. Yet, as faculty members interact with industry, they will inevitably compare their institution's reward system with that of industry. If there are significant discrepancies, talented faculty members may defect. Estimates of the faculty defections to industry in the past two years have run as high as twenty five percent in some universities. (Gibson, 1984). There are accommodations such as shared appointments, that can be made, and which support academic researchers and build research partnerships. The main problem regarding the reward system is the level of faculty salaries. Faculty salaries must be kept competitive if we expect the American research apparatus to remain healthy and free. Universities must have a reward system which attracts the brightest minds. No partnership can be effective if the academic team is uninspired, underfunded and overworked. Finally, Universities must have a reward system which continues to attract the brightest minds and reinforces external activities related to industry. Faculty who may not only lack rewards for their action--they may actually fall behind their peers in the department who devote their time to the traditional activities. Reward systems and judicious use of para-professionals need to be reexamined to make sure the most productive interaction between business and higher education takes place.

There will always be a limitation on the number of first-class researchers and unlimited demands on their time. Sophisticated technology, industrial seminars, employment of graduate students--a number of devices may be used to spread these talents. But, fundamentally, the choice of how to spend one's time must remain with the faculty member.

Of all the issues outlined in Danforth's guidelines, the preservation of the right of faculty to engage freely in scientific inquiry and to have access to results may be the most challenging. President Paul Gray of MIT stated the academic case well: "Those who would place controls on certain research--for example, by putting restrictions on publications or by limiting the presence of foreign students and faculty on the nation's campuses and restricting their access to some research--do not fully understand the degree to which quality and progress in science depend on openness and sharing of information within the educational and research communities. The whole research process depends on this openness in order to pull the pieces into a whole, to avoid duplication of error, to stimulate insights, and to judge significance. Any proposals to classify sensitive research projects or to restrict either publication or the nationality of researchers for certain projects must be carefully weighed against the resulting cost to the research process--to its progress and to its quality. This country's scientific and technological leadership has its roots in the universities, whose strengths are based on open and shared explorations of ideas in education and research. A departure from this principle in certain fields would mean that many institutions would be unwilling to work in those areas." (Tech Talk, May 23, 1984, Pg. 5)

More subtle than censorship, but equally damaging to the freedom of the academy, could be the diversion of resources away from the universities' basic mission of education toward those applied areas of industrial interest. A balanced funding base and consciousness of this concern by all parties is fundamental. Resource allocation can be measured over time and monitored by faculty senates and Boards.

Financial support can lead to other expectations such as input on who speaks on campus, and what courses are taught. Above all else, the university must provide a place for the sifting and winnowing of ideas in all fields. The control of the curriculum and learning environment and the appointment of teaching staffs must remain in the hands of the academics.

With these tenets as general guidelines to maximize the effectiveness of the interaction between business and university, it may be helpful to take a systems approach and identify barriers to interaction, devise ways to make the systems compatible, and provide incentives for both faculty members and the private sector to overcome the barriers that exist. This systems model has been the approach used by Florida and so is used as a case study. While the focus is on Florida, it must be recognized that much of what is described is a variation or duplication of other programs elsewhere in the country.

Florida: Efforts to Enhance the Partnerships

Florida is a fragile sandspit pointed toward the Caribbean and Latin America. This geographic position has made it the gateway to Latin America. Sun, sand and phosphorus are the natural resources. Distances are vast. It is further from Pensacola to Key West than from Pensacola to Chicago. A favorite description of Florida is a state of Southern hospitality, the Western frontier and Eastern money markets. This dynamism means the state has just surpassed Ohio in population, and all projections see Florida by the decade of the nineties as the third or fourth largest state in the nation. Florida will have people. The issue facing the state is whether it will have the industrial base to provide these people with a comfortable standard of living, assuring the development of this industrial base is complementary to its environment.

Recently, new clean industry has been successfully recruited, particularly in the strip which runs from Tampa on the West coast to Cape Kennedy and Boca Raton on the East coast. As high technology began to move into the state, the Florida Engineering Society and the Board of Regents conducted independent studies on the relationship of engineering education to the rising expectations of this developing industry. Both studies agreed on the need to improve the overall quality of the engineering program by increasing faculty salaries, improving faculty-student ratios, adding to the scientific and technical equipment, improving facilities, and increasing the total number of engineers to be produced. From this broad community consensus the Board of Regents came up with a five-year legislative program. The program is in its third year, and all requests have been fully funded.

The state's emphasis on engineering education has attracted private funding, particularly in the equipment area. However, the most innovative of Florida's approaches for acquiring private donations is the plan for eminent scholars. By act of the Florida Legislature, if a donor contributes $600,000 toward a faculty chair, the State of Florida will match its contribution with $400,000 for the establishment of an endowment for a faculty chair. Schools of engineering, with their new visibility and strength, have been particularly attractive for this program. The establishment of this strong base in engineering is critical for the rest of the state's outreach program to business, because only a strong core will assure the academic strengths necessary to be supportive to industry.

The Florida Engineering Education Delivery System (FEEDS) has helped address the first and most urgent request from the private sector--to provide for continuing education for engineers. Florida firms need the opportunity of graduate engineering education courses as a device to help recruit, attract and sustain engineers. Such programs are also necessary to upgrade skills. The very size of the State of Florida and the dimensions of this project are such that a plan was written to combine all of the engineering academic resources as a single pool to be drawn upon by any employer in the state of Florida. FEEDS is made up of the four graduate engineering colleges which are now cooperatively offering Master's degree programs in Electrical, Mechanical, Civil and Industrial engineering. Although electronic blackboards and computer assisted instruction are a part of the program, the heart of the FEEDS system is videos of courses taught by full-time faculty, that are sent to a number of industrial and university sites throughout the state. Mentors oversee the delivery of the courses on site. This delivery system makes the faculty and deans responsible for the quality of the system and assures industry that their employees are receiving a sound education at the locations and times that are convenient.

Each of the colleges participating in FEEDS has agreed to transfer credit from courses offered by other institutions so that students can draw upon the strengths of several institutions. Since each student is assigned a faculty advisor in his or her Master's program, the students are assured that their courses will meet the degree requirements. The operation of FEEDS is supervised by representatives from the industries using FEEDS and by representatives from the universities participating in FEEDS. This Policy Board provides a continuous forum at which industry and the universities can jointly discuss the problems of providing a better educational product through new technologies and new approaches. Four Masters programs are in place and the State University System expects to expand these offerings to include specialities in the basic sciences.

Other outreach mechanisms are in place. State technology application centers were established around the state in 1977 when NASA wished to make more readily available to American industry the technology that has evolved from the space program. In cooperation with the State University System, this NASA information base has been indexed and made computer accessible. Three- to four- hundred other indices have been added to the NASA base so that individuals wishing to track a given problem may do so at six different sites in the state.

A plan has been drafted to add to the NASA data base a listing of university faculty and research interests so the industrial community may have computer access to the State University System research community. This index will be organized by a series of key-word subject areas so that faculty and members can be identified in a number of subject areas as well as by location. In addition, the index will be expanded to include a state-wide list of entrepreneurs also organized by subject area, to facilitate contacts between researchers and entrepreneurs. The Small Business Innovation Research (SBIR) categories will be used to allow Florida to determine which faculty members and entrepreneurs might be good partners for developing joint proposals for submission to the SBIR. Given Florida's past performance in developing SBIR proposals, this structure may allow Florida to take more advantage of this funding source in the future.

A number of proposals are underway to assist in the marketing of faculty ideas. One proposal would establish faculty review committees at all state institutions and invite individual faculty members to submit proposals. These committees will work with the Small Business Development Centers (SBDC) and the State Technology Application Center (STAC) to give these new proposals the support they need for success. This approach is an attempt to reduce the risk involved in beginning a new business by giving the inventor and entrepreneur the managerial and technical support they need to succeed.

Basic to this proposal is the network of Small Business Development Centers across the state of Florida aimed at trying to give technical assistance to small business. These Centers have proved helpful to a broad range of companies, primarily in the services sector, in the past. Frequently the pattern in high technology industry is that of a scientist with a bright idea who develops a good product but begins to falter when it is necessary to put in place an accounting and personnel system, and to develop marketing strategy or other service. Florida hopes to closely link supports in technical development with the Small Business Development Centers, placing particular emphasis on the needs of high technology companies, in order to alleviate this mortality problem.

As a part of the program to develop new industry, research parks are being developed on four campuses. At the end of the year the system anticipates having an incubator building on each of the sites. The extent to which faculty expertise, computer support, and other services will be available has been outlined with general guidelines at each park. In two cases the research park development has been organized in partnership with business entrepreneurs who specialize in park development. In two other cases the universities themselves are taking on the responsibility for park development.

Florida is in the process of developing expertise in technical assistance for international trade. High technology is apt to have an international horizon, and Florida is a natural center for trade to Latin America, Africa and the Caribbean. The technical problems of international trade, cultural differences and language barriers are all concerns that can be addressed by the University. We hope to expand the Small Business Centers so that businesses needing assistance may find appropriate expertise.

Over the course of the last year-and-one-half, a survey of small business executives and technical training experts was conducted. The objective of these inquiries was to determine the extent to which unmet technical training needs constitute a significant practical impediment to exporting by small and medium-sized businesses. To a surprising degree consensus emerged among both business executives and the technical training community that training needs often rank as high as financial needs and the unfamiliarity with their business clientele, as an obstacle to exporting by small businesses. But, while a variety of public and private organizations have sought to assist small businesses in obtaining export and pre-export financing, to develop over-seas leads and to understand the business community, a sustained and coordinated effort has been undertaken to address technical training needs.

The fundamental export problem is that for most companies, development of reliable overseas markets presupposes the ability to ensure proper installation, maintenance, and repair of the exported product. For small business executives with limited contacts and experience in the target market, this inability to guarantee ultimate quality control over their own products acts as a barrier to sustained international operations, especially when compared to the safe and familiar alternative of relying on domestic sales. Unless the business in question has already made a permanent commitment to full-scale overseas operations, it is unlikely to have the resources to develop an in-house training program tailored to each target market. Furthermore, while the business might be able to afford contracted training services, it has no means for identifying and assembling experts familiar with the business, language, cultural and social aspects of the target market, and with the technical needs associated with its product-lines, fixed within a period of time. As a result of this technical training gap, many companies occasionally dabble in foreign markets when domestic sales justify the perceived risk, but never make the long-term commitment to exporting.

On the other side of the technical training gap, few individual academic institutions and corporate training organizations employ the full range of training experts needed to serve a specific small company's needs. Most training organizations do not have fully developed outreach programs to identify potential small business clients, and in any event cannot assemble training teams at one time and in one place among themselves.

The States of Georgia and Florida are attempting to provide this support by creating the World Technology Center which will fill the technical training gap by: (1) creating an outreach program to identify small and medium-sized businesses for which technical training needs constitute a significant impediment to initial or expanded export sales; (2) creating a network of technical training resources in Georgia and Florida including experts on every available foreign market and technical field; (3) pulling together from this network training teams tailored to an individual company's (or group of companies') target market, product line, and scope of projected overseas activities; (4) designing specialized one-stop training packages, including some generally-applicable in-house training on basic aspects of exporting; and, (5) providing additional "one-stop" help by making available information on technical assistance, trade leads, and other programs and services offered by federal and state governments and private-sector economic development organizations. With the initiation of WTC, Florida's industries will no longer have to depend on a single university for training. Again, if this approach is successful, non-export businesses in Florida will be offered similar training programs.

Not just the university community is affected by the growth of the knowledge industry. The reexamination of vocational education will also be required. As trainers of vocational education teachers the university community needs to be a full partner in this reexamination. Although Florida as a state has been highly supportive of vocational education, the university community has not taken the initiative to bring together those doing the planning and training of the voc-tech teachers with those working in the science of new technologies. This gap needs filling.

Each piece of this mosaic of general programs for development must be coordinated. The aim is to bring into full coordination the continuing education program of FEEDS, the State Technology Application Centers, the Small Business Development Centers, the World Technology Center, and vocational and international supports so that as a company moves into a community there can be one contact for the business entrepreneur to gain the kind of university assistance that may be necessary.

In summary, the question has been asked: "How can we make the partnership between higher education, industry and the professions work?" Whether it is in the research park, individual seminars, or through faculty listing, the undercurrent of all of Florida's activities has been to try to get researchers from the university community and industry to become acquainted and to work with each other. The personal factor is critical to a productive mix. It is from this mix that the system is gradually developing cooperative research projects, shared equipment, and shared and joint appointments. The role of the university presented here is for a much more active partnership with industry than we have seen in the past. Universities must reach out. Pragmatism has been America's ideology. We must learn again to wed effectively the dreamers and the knowledge makers with knowledge brokers and practitioners. The stakes are America's future.

Bibliography

______. Agenda: Recommendations for national action in higher education. The 96th Congress: A joint statement of the National Association of State Universities and Land-Grant Colleges and American Association of State Colleges and Universities.

Ashby, Sir Eric. *Technology and the academics: An essay on universities and the scientific revolution*. London: MacMillan and Company LTD, 1959.

Dakenwald, Gordon, et.al. (Eds.). *Reaching hard to reach adults*, new directions for Continuing Education, No. 8, San Francisco, Jossey-Bass, Inc., 1980.

Dubin, S. S. *Professional obsolescence*. Lexington, Mass.: Lexington Books, June, 1970.

______. Facts '79. Washington, D. C.: NASULGC, 1979.

Gibson, G. Thomas. Research for sale, *Venture*, March 1984. Pp. 80-86.

______. Gray speaks against restriction. *Tech Talk*, May 23, 1984 Page 5.

Johnson, Elmima C. and Tornatzky, Louis G. Academia and industrial innovation. In G. Gold, *Education New Directions for Experiential Learning: Business and Higher Education - Towards New Alliances*, *15*, San Francisco, Jossey-Bass, September 1981. Pp. 47-63.

Lynton, Ernest A. A crisis of purpose: Reexamining the role of the university. *Change*, October 1983. Pp. 18-53.

Lynton, Ernest A. High education's role in fostering employee education. *Educational Record*, Fall 1983. Pp. 18-23.

Lynton, Ernest A. Improving cooperation between colleges and corporations, *Educational Record*, Fall 1982. Pp. 20-25.

Lynton, Ernest A. Review essay: The economic impact of higher education. *Journal of Higher Education*, Vol. 54, No. *6*, Nov./Dec., 1983. Pp. 693-708.

Lynton, Ernest A. The missing connection between business and the universities. To be published by the ACE, draft of July 1983.

Melchiori, Gerlinda. Relations between higher education and industry. University industry partnerships: Incentives and barriers. In *Higher Education in Europe*, Franz Eberhard, et.al. (Eds.) Vol. 8 No. 4, Oct.-Dec., 1983. Pp. 5-16.

Minshall, C. W. Development of high technology industries in New York State. Undated Final Summary Report prepared for the New York State Science and Technology Foundation by Battelle Columbus Industries.

Paulson, Steven R. et.al. Industry-university research in Florida: Incentives, barriers, and prospects. A Final Report: Submitted to the Florida Institute for Local Government and the Office of the Governor under STAR Research Grant, Sept. 30, 1983.

Phillips, Ione. The added dimension: State and land-grant universities serving state and local government. Washington, D. C.: NASULGC, Undated.

_______. Quest for excellence: The master plan of the State University System of Florida, 1983.

Rainsford, George N. Congress and higher education in the nineteenth century. Knoxville: University of Tennessee, 1972.

_______. Targeting the process of innovation: An agenda for U.S. technological leadership and industrial competitivenss. Recommenda tions of U.S. House of Representatives, First Edition, May 1984.

_______. Technology, innovation, and regional economic development. Background paper. Census of State Government Initiatives for High-Technology Industrial Development. Congress of the U.S., Office of Technology Assessment, Washington, D.C., May 1983.

Tornatzky, Louis G. et.al. Fostering the use of advanced manufacturing technology. Undated draft.

Tornatzky, Louis G. The process of technological innovation: Reviewing the literature. Productivity Improvement Research Section, Division of Industrial Science and Technological Innovation. National Science Foundation, May 1983.

_______. University-Industry research relationships: Myths, realities, and potentials. Fourteenth Annual Report of the National Science Board, Oct. 1982.

LIBERAL EDUCATION AND LIFE AFTER GRADUATION

Robert M. Diamond
Assistant Vice Chancellor
Syracuse University

> **"In Syracuse, the center city of an empire, Syracuse University, with stately buildings, is situated upon the most attractive spot in the city; healthful, never having known an epidemic, with scenery unsurpassed, attracting thousands of sightseers annually to its campus. Its surroundings are uninvaded by a saloon or any social evils that shock the moral sense. Here stands a coeducational university in which for thirty years there has never occurred a moral aberration between the sexes, or a case, because of these associations, to bring anxiety or trouble to a parent's Heart."**
>
> -from the 1901 SU catalog

Education has changed since the turn of the century---not only in what we say in our catalog to attract students, but in what we teach, how we teach, and in the resources and facilities that we have available to us. However, the key to measure the success of any educational system has stayed constant: how well the system meets the needs of its students and the needs of the society in which it exists. In this paper, I would like to focus on one part of this equation...meeting the future needs of our students. In short, are we, as it says one way or another in most catalogs, "providing each student with the learning and understanding essential for success and fulfillment after graduation."?

What research and employers tell us

The Center for Instructional Development at Syracuse University was established in 1971 to work directly with faculty and departments in the improvement of academic programs. Since that time it has been involved in over one hundred projects, ranging from the design of a single course to the development of an entire curriculum. Projects have been undertaken in almost every subject area found at a diverse research university and at both undergraduate and graduate levels. These have ranged from the redesign of basic courses in English and mathematics and the design of new courses in religion, philosophy, linguistics, and psychology to the design and implementation of new curricula in management and music.

As part of this process, a major effort has been made in every one of the curriculum projects to identify those skills, competencies, understanding, etc. that each student in the program should learn prior to graduation. These fundamental outcomes were identified by a review of the literature, by interviews with the employers and recruiters, and, if the project is a redesign of an existing curriculum, with interviews of our graduates. This information was further expanded when faculty at Syracuse and at other institutions, both in the United States and abroad, were asked to list those skills they felt that every student graduating from their institutions should have at graduation.

In addition to the list of specific skills and competencies that were developed, two observations should be made.

First, regardless of the discipline and whether the list was developed from a review of the literature or by faculty, by alumni or by recruiters, or by employers in the United States or in other countries, final lists were almost identical.

Second, more and more employers were saying, "give us the well-rounded individual, the generalist. . .we'll provide the specialized training." In other words, they were asking for the liberal arts graduate.

The key survival skills

Eight basic survival skills appeared regularly on the lists that were developed.

1. Effective communications...the ability to write, speak, and listen effectively.
2. Interpersonal skills...the ability to work well with others in both leadership and support roles.
3. Interviewing skills...the ability to handle an interview situation

effectively.

4. Functional mathematics...the ability to solve fraction, decimal, percent, and word problems.
5. Basic managerial finance...the skills of personal accounting - understanding budgets, etc.
6. Problem solving and decision making...making the right decision in complex situations where some action is required.
7. Resource utilization...the ability to, first, identify what you need to know and, second, to know where to get your answer.
8. Computer utilization...an understanding of what a computer can do for you and then how to use this technology to meet your own specific needs.

Do our graduates have these competencies?

Breen, Donlon and Whittaker[1] observed that a "deficiency in interpersonal skills is probably the single most common reason for failure on the job. It may also be the most prevalent source of discord and unpleasantness in our personal lives."

Worthington[2], in a study conducted at Brigham Young University, concluded that students at his institution needed assistance in personal and consumer finance, and in one of the earlier studies of the problems that students had after graduation, Calhoon & Balas[3] found written communications and decision making skills to be the top two areas of significant deficiencies. Tatzel[4] reported that, while most catalogs included such statements as "students will learn to deal responsibly and effectively with others, develop a sense of group dynamics, become effective leaders," etc., it was rare for such growth to be addressed directly in either course descriptions or syllabi.

Recruiters and employers constantly tell us that while the college graduates they interview or hire have the content expertise of the discipline, few can write or speak effectively. Studies at several institutions have shown approximately half of the entering freshmen are unable to handle mathematics of the eighth-grade level and, as a result of avoidance on their part and a lack of testing and remediation on the part of the institution, leave the same way they entered. In addition, students rarely are required to give formal presentations, have experiences in our classes of working together with others, or, in most courses, of expressing their ideas clearly and concisely in writing. Work on financial management is the exception and courses that provide actual experience in decision making and problem solving are rare. In short, while our catalogs may say that we "provide each student with the learning and understanding essential for success and fulfillment after graduation," we apparently don't do it.

What went wrong?

Of all our programs, it is the liberal arts (Arts and Sciences) that claims to prepare the "well-rounded" individuals. There is little doubt that, if our liberal arts graduates were what we say they should be, our students would leave with the specific competencies that business and industry are looking for. The questions must, therefore, be asked, where did we go wrong? What happened?

To search for an answer, we must look at our faculty for it is the professors who control the curriculum --- what is taught and how it is taught. If our graduates are unable to communicate effectively, solve problems they have never seen before, or work cooperatively in either leadership or support roles, the blame must lie on what happens in our classrooms. Administrators may establish a climate, but it is the teaching faculty who are responsible for what is learned and what is not learned.

The problem is a fundamental one and one that has evolved over time. It is the direct result of two trends that have occurred simultaneously.

1. Fundamental changes in the structure of the curriculum

For some time, the liberal arts curriculum has been moving from a broad-based general program for all students into one of increased specialization. In the United States, the liberal arts curriculum became even more fractured in the 1960's and '70's when, on most campuses students were given greater choice of courses, prerequisites were all but abandoned, and requirements were significantly reduced.

While a major movement is now underway to restore more structure and cohesiveness (under the name of clusters, core programs, etc.), faculty are finding it far more difficult to take back what was once very easy to give away.

2. Increased faculty specialization

Over the past decades, faculty in many disciplines have tended to become more and more expert in a smaller and smaller area of study. The generalist and interdisciplinarian have all but become extinct under the pressures of promotion and tenure fostered by the professional associations and supported by faculty committees. Specialization can also be attributed to doctoral students seeking dissertation topics in fields of specialization that have been harvested for the last hundred years.

In his recent article on professors and the curriculum, Rudolph[5] observed:

> Professionalism among the professors, their narrow specialization, the complete neglect in their training of any concern with teaching or with any professional responsibility other than to scholarship, are conditions that inhibit optimism about whether even liberal arts colleges can in fact teach liberally. Too

many teachers of liberal subjects are so far gone into specialization and into the scientific understanding of their specialities that the challenges of teaching, of bringing students into a humanistic relationship with their subjects, are beyond their interest or capacity.

Where do we go from here?

Change does not occur by chance. If our students are to graduate with these survival skills, new elements will have to be added to our curriculum and significant modifications will be needed in how we teach. This will require:

- Fundamental changes in the attitude of both faculty and administrators toward instruction in, and the importance of, these survival skills. Unless key administrative and faculty leaders support these changes, they simply will not occur.
- Modifications in the reward system where teaching and activities designed to improve the quality and breadth of academic programs are considered significant.
- Changes in how we teach with an increased emphasis on developing in our students those competencies that are generic and non-content specific.

While some of these survival skills represent a new content (budgeting, computer literacy, etc.), others are process skills (problem solving, interpersonal skills, etc.), skills that I believe can be taught in many classes without changing their academic content.

Some Recommendations

1. **That experience in speaking, problem solving, interpersonal relations be built into our upper division courses.**

   The smaller sized junior or senior classroom is the ideal environment for requiring students to give oral reports, to work in small groups to solve a problem or produce a report, for developing skills in resource identification and utilization.

2. **That colleges and universities make available to all students short courses on the interviewing process.**

   Courses of this type (for credit and non-credit) are being offered on a growing number of campuses as part of the regular program, often within housing areas and during early evening hours and on weekends.

3. **That students be required as part of formal course work to use the computer.**

   Designated papers might be required to be prepared using word processing and a computer simulations as an appropriate teaching technique for many courses. The use of budget spreadsheets can also be introduced into many professional areas.

4. **That information on the importance of these survival skills be developed and disseminated to faculty and students.**

   The data exist---unfortunately, too few know about it.

Graduating seniors are entering an ever-changing world. Much of the data and facts they have learned will be obsolete within a decade. Unfortunately, most of our students leave unprepared in those skills that never become outdated...they can neither write nor speak effectively, are unskilled in interpersonal skills, and are missing many of the other experiences that have been identified as being essential. The liberal arts were established to produce the well-rounded individual...it's time we got back to the basics.

REFERENCES

1. Breeen, B., Donlan, T.F. and Whittaker, U. Teaching and assessing interpersonal competence--A handbook. Columbia, Maryland: Cooperative Assessment of Experiential Learning, 1977. ED 184-844
2. Worthington, B. G. An assessment of personal and consumer finance literacy among undergraduate students at Brigham Young University. Business Education Forum. 31, 5, 1977
3. Calhoon, R. P. and Balas, B. D. Problems with college graduates in business. Journal of College Placement. 30, 1, 1969
4. Tatzel, M. Prospects and methods for interpersonal studies. Institutional report, number 2, Empire State College. Princeton, New Jersey: Cooperative Assessment of Experiential Learning Project, 1977. ED 148-847
5. Rudolph, Frederick. The power of professors: The impact of specialization and professionalization on the curriculum. Change. May/June 1984

LIBERAL VERSUS VOCATIONAL EDUCATION: WHAT DOES OR SHOULD THE CONCEPT OF GENERAL KNOWLEDGE IMPLY IN OUR GLOBAL SOCIETY?

Ulrich Peter Ritter
Johann Wolfgang Goethe-University, Frankfurt

During the last weeks, as I kept revising the concept of my speech again and again it became clear to me, that contrary to my original ideas the real issues are not implicated in questions referring to differences between European and American ideas on the topic or the questions arising around the whether, how much and when of vocational or professional versus liberal arts education but rather around the question of what liberal arts education means today and how a new concept of liberal arts can be elaborated and implemented. Since my time is so limited, I am going to concentrate on this topic.

At the Fourth International Congress of EARDHE, which took place in Frankfurt in September of last year with the title: "Higher Education by the year 2000: How can institutions of higher education contribute to the solution of global problems?" (1) a surprising thing happened: there were many indicators of what could superficially be interpreted as pointing to the idea that the most modern and best thing that universities and other institutions of higher learning could do to better prepare these institutions for the year 2000 would be to return to the ideas of the beginning of the 19th century. Thus in Volume II of the Preparatory Papers one colleague from the United States (2) blandly postulated the return to the traditions of the past as the only chance for saving higher education. Furthermore, he presented survey data which could be interpreted in a manner, that if not the students, then at least most of the professors seemed to agree with him on that point. While this colleague could be seen as the lonely conservative always looking backwards instead of forwards to deal effectively with the present, he was not a lonely voice in the desert: Wilhelm von Humboldt, the founder of the concept of the modern university at least in Germany, played an important role during the EARDHE congress from the opening speeches to the end, when groups reported on their view of U 2000. And he was cited by people whom one could certainly not suspect of being right wing conservatives. While for a long time Wilhelm von Humboldt was out with all progressives and reformists as an elitist only interested in the education of the happy few, in his opening speech Wolfgang Sachs (3) gave a "green" interpretation of his writings and deeds, "green" in the sense of the new German poltical party.

Looking at the future from a completely different angle, the Polish sociologist Kozakiewicz (4) presented data on the behaviour and values of Polish youths indicating their frustrations with studies oriented towards the needs of the labour market and their preference for the humanities. What has happened so that in European and maybe also in US Higher Education when talking about the future we are more and more reminded of the past?

Many hypotheses could be presented, for example:

- in the dialectic way in which human history moves, the reform optimism of the 60s and 70s is being replaced by a reform pessimism and conservatism due to the disappointing results of the changes made.

- the development - some call it the explosion - of knowedge has been such that more and more knowledge has to be crammed into the disciplinary teaching leaving less and less time for students to look across the borders of their discipline and take courses in other subjects, thus knowing more about less, which, in reality means knowing less about the world and what makes it turn.

- the crises of relevance of science and higher education and

- the decreasing importance of higher degrees for obtaining jobs and advancing in careers

-........

They all point to an emerging interest in liberal arts or studium generale. I admit that vocational preparation is also an issue, but today at least in many European countries it is less so than the question of disciplinary vs. general knowledge education.

It is with this in mind that I want to approach the topic. And I want to limit myself to presenting my arguments for a more general approach added to the disciplinary one. I want to explain why liberal arts is not enough to describe what these general knowledge studies must be like and I want to formulate some questions we will have to answer if we want to become more concrete in explaining what a "general knowledge" or "liberal arts" education in - and for the future in a global society

should look like. I hope to get some first responses to these questions in the following discussions with you.
I will give six arguments in favor of liberal arts or general knowledge studies and I will formulate six questions.

Let me explain my first argument: When educating for the future we have to put more stress on process- rather than on content-oriented skills. What I mean by this will become clearer to you when you look at figure 1.

Here I distinguish three types of skills which are important in human life:

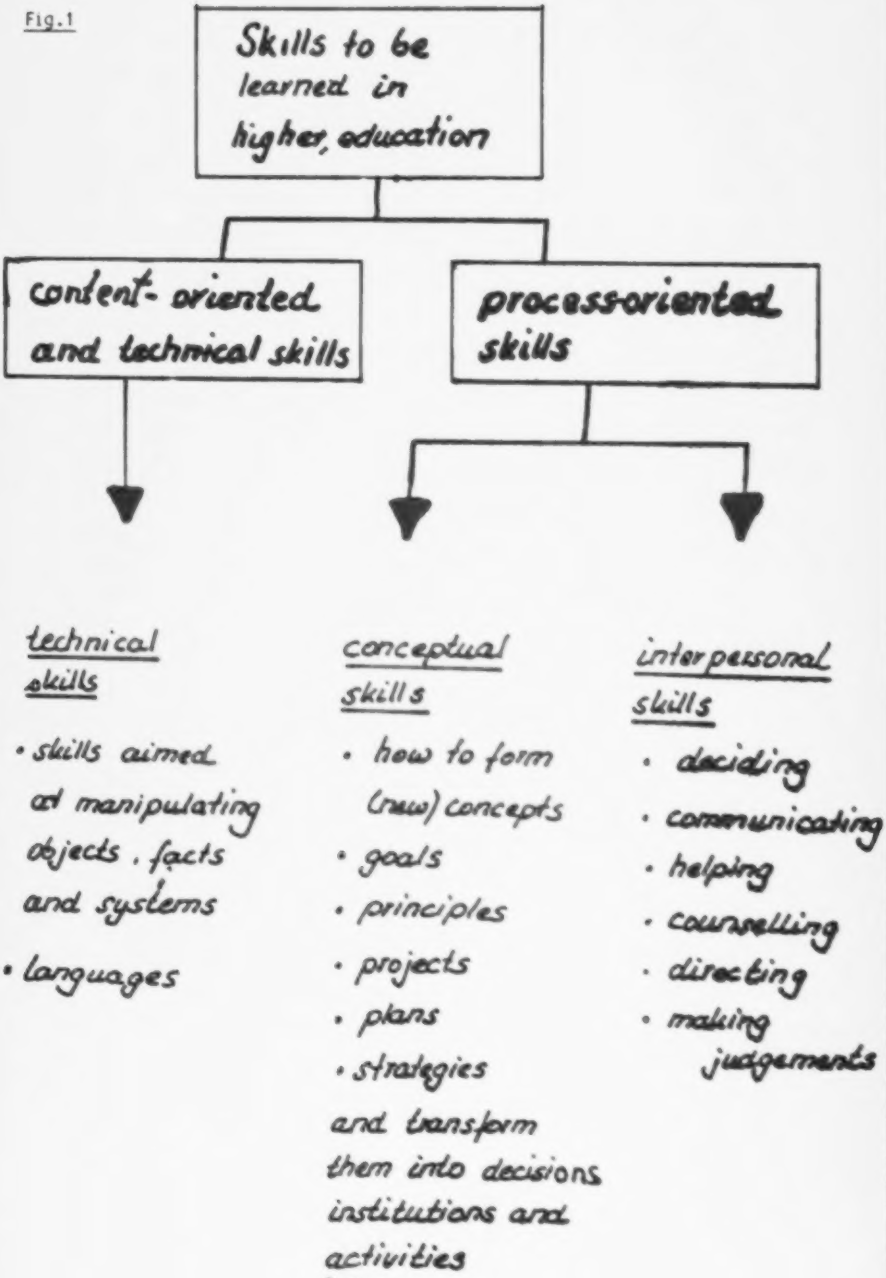
1. technical basic skills such as speaking, reading, writing, counting and other more general skills and specialized skills aimed at manipulating objects, facts and systems.

2. conceptual skills which permit us to form (new) concepts and ideas as well as to formulate goals, principles projects, plans, strategies and to transform these into decisions, institutions and activities and

3. interpersonal skills such as communicating, cooperating, helping, counselling, directing, judging, choosing deciding etc.

If we look at the type of learning that univesities provide, then it is mostly in the field of technical skills. If, on the other hand, we observe how and where our world is moving then it would seem that it is the interpersonal and conceptual skills, or process-oriented skills that we will need more of in the future.

Fig.1


Skills to be learned in higher education
content-oriented and technical skills
process-oriented skills
technical skills
• skills aimed at manipulating objects, facts and systems
• languages
conceptual skills
• how to form (new) concepts
• goals
• principles
• projects
• plans
• strategies
and transform them into decisions institutions and activities
interpersonal skills
• deciding
• communicating
• helping
• counselling
• directing
• making judgements

So my first question is: How can we provide for learning situations where these process-oriented interpersonal and conceptual skills can be developped?

My second reason for pleading for more liberal arts or general knowledge education is the human need for giving meaning to actions, finding sense in living and desiring to develop one's personality.

This need is becoming of ever greater importance as we move from an industrial to a post-industrial society and as the instrumental value of higher education as a factor deciding on work, incomes, and getting promotion deteriorates.

As the message of disciplinary education is rather the fruitlessness of problem solving through scientific activitiy, the belief that education has a value for one's own personal development might even increase.

Thus Bogdan Suchodolsky(5), a Polish colleague says,"It is the orientation towards experiences which are valuable in themselves and are not to serve anything that is the reverse of instrumental orientation.(...). By such experiences the human personality is enriched and develops and due to them life acquires a particular charm; it gains value and sense. It is not the future, requiring disciplined efforts in the present time, but just the passing moment of the here and now becoming an important milieu of existence and experiences. In relation to them the question: What for? loses its meaning. It is because these experiences in themselves contain their justification.(...). The antagonism between doing something, in order to have something or doing something to be a person does not imply the necessity of choosing but rather requires mutual supplementing."

Therefore my second question is:

How can we have more learning situations, which are meaningful to the students in themselves?

My third argument is the need to have a new type of learning to enable us to work for survival. If we believe the modern evolutionary theory of cognition(6), then humankind has acquired the basic categories of our thinking or what Kant called the a-priori such as the perception of time, space, causality, substance and necessity in the process of mutation and selection because they proved to be of value for the survival of the species.

Our instruments of perception and conceptualization then developed in this way, because with their help, humankind was able to survive and develop. These instruments are not as useful in knowing more about nature and society than was necessary at the time when our species developed. Perception is proven at fault in many cases and causality is much more complex than we usually perceive. But the development of reason and science helped us to move one step further. They were part a of process to guarantee the survival and development of the species on an ever more crowded and complex globe, this complexity being at the same time the result of the progress of science. Today we find ourselves at a turning point. The fruits of science threaten man. In addition to enabling an ever growing population to live and live at a hopefully higher standard of living, we have come to the point where science enables us to kill not only the species man but also nature and thus the basis of all life on earth. Today science and reason are no longer sufficient as instruments of survival. We need new instruments which help us to share the space-ship Earth and to protect it for further generations. For this we need a global consciousness of man, a new paradigm for science, new instruments of perception and ways and methods of thinking, and new types of models which we construct to understand the complex, non-linear relationships and the interconnectedness of systems in a global context which escapes the disciplinary approaches of traditional science. That is why my third question is: How can we prepare students to be willing to accept new paradigms, models and methods in the future?

My fourth argument refers to this need for new paradigms and methods. Disciplinary specialization in research and teaching has come to its limits. These limits are marked by the fact that these specializations can no longer provide the answers students are looking for to deal with the problems with which society is confronted. Admitting all the advancements, which are the fruit of differentiation, we are now in need of a new way of thinking which I call transdisciplinary.

Transdisciplinarity is more than interdisciplinarity, where each researcher puts into the process of problem solution what his discpline has to offer, sticking to the values, methods and paradigms of his home-discipline. In transdisciplinarity a new common language, a new theory, new methods and a new attitude are required to permit a new vision of reality. This is what happened, for example, in the modelling of world systems such as the one used in the famous Meadow's study, "Limits to Growth". (7) So my fourth question is: How can we provide for transdisciplinary learning experiences?

My fifth argument refers to the need to overcome Euro-North-American centrism and to foster the evolution of a global culture which respects the individuality of regional cultures.

Dependency and Euro-North-American centrism are among the deterrents of the development of a more humane society. They must be replaced by interdependency, mutual respect and pluralism. For the physical survival of humankind we need some common values of world civilization while for psychic survival in view of the media revolution we need the plurality and richness of cultural differences.

Therefore my fifth question is "How can interculturality become part of a general knowledge education?

My sixth and last argument pleads for including the question of a new global ethic and the training of moral discernment in our liberal arts or general knowledge education. Today we experience a worldwide protest against morally blind instrumentalism. Still, the values of the scientific community cling to the myth of a value free science and look for the rationality of the means to reach ends rather than discussing the rationality of the ends. On the other hand in our world today relationships between causes and effects have not only become so complex and so distant that the actor is no longer confronted with the results of his actions; in addition these results are the consequences of cumulative processes caused by people all around the globe. No one can be held responsible individually: Therefore, we must look for values and norms of universal validity and acceptance.

So my sixth question is: "What would liberal arts education have to be like, if it were to foster moral discernment on the basis of a new ethic of global responsibility?

Let me sum up my ideas in the following way: The question is not vocationalism versus liberal arts. Just as we have to make it possible for students to acquire knowledge and skills useful in their later careers we must enable them to be good at least in one discipline; they must know at depth at least one small part of scientific knowledge and comprehend the complex nature and even contradictions of the relationship of that discipline with other neighboring disciplines and more distant disciplines, in other words, to understand the context of their discipline in terms of other disciplines. The problem is not, what percentage and at what time within the curriculum should we have liberal or general knowledge studies. The real problem is what these general knowledge studies should be like in a time of global crisis and urgently needed renewal which puts entirely new demands on people and new tasks on institutions of higher learning.

What I am pleading for is not liberal arts or more general studies as a prerequisite before you are allowed to go on to specialize in a vocational or diciplinary way as was proposed during our congress by the American colleague already mentioned, thus returning to the traditions of the middle ages where the trivium and quadrivium were such prerequisites allowing for specialization on a wide common basis. Conceptual and social skills, global ethical discernment, transdisciplinary thinking about problems etc. are process- rather than result goals. Therefore they should be developped parallel to disciplinary studies. New didactic forms which are process oriented must be developped and accepted.

Here is an example of elements of new general knowledge learning experiences. During the course of her/his studies each student is asked to do, let's say, five things in the field of general studies:

1. attend one trans- or interdisciplinary course or seminar done in the form of interdisciplinary team teaching by professors from different disciplines on a theme of global perspective.

2. Write one paper on a theme where he has to consult with professors from different disciplines.

3. Work on one project together with students from other disciplines.

4. Have one practical intercultural experience.

5. Have one experience in a "discernment circle" discussing questions of ethical relevance.

The way these things come about should allow freedom of choice to the utmost, giving them the character of something you are allowed to do and want to do rather than what you have to do in order to do what you realy want to do.

BIBLIOGRAPHICAL REFERENCES

(1) Proceedings of the International Congress of the European Association (EARDHE) for Research and Development in Higher Education: Higher Education by the Year 2000, edited by Ulrich Peter RITTER .
in cooperation with Hans Peter KUHN, Frankfurt, September 1984.

(2) Preston L. DENT, By the Year 2000: Back to Strong Traditionalism for American Higher Education, in: Higher Eduation by the Year 2000, Congress Preparatory Papers Vol. II, edited by Wolf Rieck, Frankfurt July 1983, pp. 210 - 219.

(3) Wolfgang SACHS, Superindustrialization, Selfreliance and Wilhelm von HUMBOLDT, in: Proceedings, ... op. cit., pp. 29 - 38.

(4) Mikolaj KOZAKIEWICZ, The Socio- Economic Crisis, the Changes in Values and the Prospects of Higher Education, in: Proceedings..., op. cit. pp. 156 - 173.

(5) cit. ibid., p. 163.

(6) Konrad LORENZ and Franz WUKETITS (editors), Die Evolution des Denkens, München 1983.

(7) Danella MEADOWS e. a., The Limits to Growth. A Report for the Club of Rome's Project on the Predicament of Mankind, New York 1972.

ACADEMIC ADMINISTRATION FOR THE 21ST CENTURY: THE PARTICIPANTS AND THE PROCESSES

George Keller
Senior Vice President, The Barton-Gillet Company

It's hard to believe that the 21st century is only 15 ½ years away. It is even harder to imagine how colleges and universities will be administered or managed 15 years from now.

But Kierkegaard once wrote that "Life can only be understood backwards; but it must be lived forwards." So we need to look ahead to the coming changes in university management. Also, except for the life insurance business, education needs to look farther ahead then perhaps any other institution in society. Most of the young people we educated today will be assuming leadership roles 15, 20, or 25 years from now. I think educators cannot avoid living with one moist finger in the wind.

* * *

What is in the wind?

I see several forces that are driving academic administration into new patterns of governance. One is the *decline in the number of traditional students*, at least in Western Europe and the United States. In this country our college-going cohort will decrease by one-fourth by 1996. Another is *technology*. The telecommunications revolution and the increase in the use of computers will continue to alter the way we deliver and receive information and some kinds of ideas, and will alter the nature of a good part of university teaching.

A third force is the increasingly international character of world trade, culture, and politics. More students each year are receiving their higher education in more than one nation. Fourth is the increasingly tight financial situation. Not only are many advanced nations overcommitted on their social welfare payments, but education costs are rising faster than the costs of most other segments of the economy because education is so labor-intensive and dependent on expensive, sophisticated equipment. And fifth is the change from university education as preparation for a career to continuing education and intellectual renewal throughout one's working life. This alters many aspects of university life--where one teaches, when one teaches, who the teachers will be, and what is taught.

Collectively, these five forces compel a different kind of academic administration in the coming decades.

* * *

The process of academic administration will probably shift to a more managerial mode. That is, loose administration will increasingly be replaced by a more professional, financially astute, market-oriented management of academic services. The magnitude of change in the universities will require more strategic planning, tighter financial controls, a greater sense of service toward new clienteles, and new forms of communication with the various publics about education and courses. Marketing--the matching of student needs and wants with institutional programs--will be far more important.

Universities will be more variegated in structure and kinds of work they do. Distant experiment stations, evening and weekend programs, television and videotape production centers, and satellite campuses will mean that more academic administration will have to be delegated rather than supervised closely. The role of academic administrators will increasingly be that of setting strategic directions and goals, of tight financial oversight and quality controls. Individual units will be more independent, but be expected to adhere to overall university aims, finances, and quality. In sum, administration will be less unitary and more fragmented in the future. But academic management will be more vigorous and comprehensive in concern.

In those universities where the professors have traditionally played a strong role in influencing academic decision making, new forms of participation will have to be created. This is already happening in the United States, where new joint administration-faculty committees are emerging to set general strategic policy, priorities for finance, and standards for quality. In those universities where there are faculty unions, participation will be more complicated--probably resulting in dual faculty participation (one for salaries and benefits, the other for planning and management).

* * *

In my view, teaching in the future will be forced to be of higher and more uniform quality and more innovative. Declining enrollments will put pressure on teachers to perform more effectively so that the institution does not lose students. And new forms of instruction via technology and through institutions other than the university will require innovative responses from university teachers. As the monopoly of schools and universities is broken, teachers will have to teach against and in conjunction with other kinds of teaching.

Exactly how academic administrators will insure better teaching is not yet clear. But, slowly and carefully, many colleges and universities (at least in America) are beginning to create new mechanisms for what we call "faculty development." Poor teachers are being assisted in efforts to improve their performance. One hopes that faculty will participate in the process of improving instruction through both research and self-evaluation and by deciding upon the extent of technology used in the future. But some teachers feel that their teaching is a very private matter, and they tend to resist outside scrutiny, evaluations, and attempts at improvement.

* * *

In short, I see stronger central policymaking, financial controls, and quality monitoring but weaker activity in administrative implementation, with more strategy implementation and administration at the local level. This is similar to what Peters & Waterman call "loose-tight" administration, and is close to the way most industrial research laboratories or hospitals are now being run. And I see new forms of collaboration in the central strategic planning, financial expenditure priorities, and setting of quality standards.

REFERENCES

Astin, Alexander. "When Does a College Deserve to Be Called 'High Quality?'" Current Issues in Higher Education, No. 1 AAHE, 1980.

Keller, George. Academic Strategy: The Management Revolution in American Higher Education. The Johns Hopkins University Press, 1983.

Peters, Thomas and Waterman, Robert. In Search of Excellence. Harper & Row, 1982.

Simon, Herbert. "The Job of a College President." Educational Record, 58 (Winter 1967), 68-78.

MEETING STUDENT NEEDS WITH TECHNOLOGY

W. J. McKeachie
Center for Research in Learning and Teaching
University of Michigan

What are students' needs? Faculty members' perceptions of students needs are not necessarily congruent with students' own perceptions of their needs. Faculty members generally feel students need what the faculty teaches; students often see no relationship between their needs and what teachers teach. What are student needs?

If we examine the research literature on student motivation, a large number of needs or motives are mentioned. Let me suggest some having possible implications for educational uses of technology.

Needs

Most college students, like other individuals, have a need for personal mastery-- to feel competent, to have a sense of self-efficacy. The student needs to be an active participant intellectually. Thus a critical element in the use of technology is the degree to which the individual feels controlled by the technology or feels controlled by it. To the degree that the student feels unable to cope successfully with the computer, to that degree the student is likely to feel frustrated and depressed.

Ben Bloom has studied the development of those who are in the top .001% in ability in mathematics, chess, basketball, science, and music. Typically, the early home environment has encouraged the development of their talent. But what is relevant to our topic is their teachers.

Their first teachers were patient and encouraging. In music, as they reached teen age and a high level of proficiency, they switched to top teachers who were very demanding and critical. Bloom suggests that if the second teacher had been the first teacher the student would probably never have gone on in the field -- would never have devoted the time that was necessary to develop a high level of talent. At some point, however, you need to introduce a sense of rigor, a sense of standards, the ability to apply the skills automatically and precisely. I asked Bloom, "If you had to choose one thing that made the difference for these prodigies as compared with other children, what makes the most difference?" He answered, "Most of those who became outstanding spent around four or five hours a day doing the thing that they became outstanding in. That is, they practiced the piano; they did mathematics problems; they were out on the playground shooting baskets. And that is four hours a day, just about the same amount of time that the average American child spends watching television."

Substituting practice in an activity for television will not result in everyone coming out in the top one thousandth of one per cent, but it will make quite a difference in achievement.

For meeting student needs for mastery or achievement, then, the important thing in technology is providing goals that are achieveable but goals that can continually be raised, can continually be advanced so that you don't just achieve one goal and then stop. To motivate these students we need a task that has the possibility of increasingly more difficult goals or higher standards of performance as proficiency is increased -- goals that can be adjusted upward as the skill grows.

Tom Malone completed a doctoral dissertation at Stanford University on motivational aspects of computer games (Malone, 1982). Many young people are almost addicted to computer games; arcades of computer games have sprung up all over. Obviously such games have strong motivational appeal. Malone studied one of the most popular computer games and gradually impoverished it by taking out different elements to see whether or not children would still play the game. Then he would add in different elements to see whether or not that increased the amount of time that children spent playing the game.

One of the critical factors in computer games was a sense of challenge, that there were always additional goals to be achieved. The games that lost appeal for students tended to be those in which the player achieved a particular goal and then had no further challenges. So goals that can be adjusted are important.

We've had a number of studies of need for achievement at Michigan by Jack Atkinson and his students. Students who are high in need for achievement tend to have been in school situations and to have had families where they were not frustrated by being in situations in which they could not achieve the goals that were set for them. Children who developed high need for achievement had parents who encouraged them to do well in school and who showed pleasure at their achievements. Those children who feared achievement situations were those whose parents set goals that were unrealistic in terms of their abilities, parents who were never satisfied with their accomplishments.

A second motive is need for affiliation. And here a report at one of the early IUT conferences still runs in my mind. When we first had reports on the use of computers in higher education, someone from America and someone from Japan reported the same experience. Having two students at a computer terminal worked better than having each student have a computer terminal to himself or herself. Apparently the opportunity to interact with another student is an important thing in learning for students. This may be at least partly related to the need for affiliation, the need of many students, at least, for interpersonal contacts. Depersonalized computer aided instruction does not appeal to all students, although there are students who like working alone on a computer. In addition to the warmth and interpersonal contact that's involved in pairs, is the fact that in student pairs, each can teach the other -- a learning experience likely to be valuable for both.

A third motive was also revealed in Malone's study. He found that successful computer games appealed to students' curiosity, their need for complexity and for uncertainty. Studies of curiosity suggest that each of us is attracted by situations that involve more complexity or strangeness, just enough more than our previous situation to encourage exploration. Clearly a cue for educational technologies is that the technology should not simply give answers to problems but give students chances to try alternative solutions, to get clues to approaches to problems. The technology should stimulate, not stifle, imagination.

A fourth motive revealed in Malone's studies is one that probably would not occur to most educators and is rather intriguing to me as a potential educational motive. Malone found that one of the important motivational elements of the computer games was fantasy, the knight rescuing the maiden or slaying the dragon, the earthling meeting the invaders from outer space, etc. I suppose that we have in some of our teaching taken advantage of this motive in role playing and simulations. My own experience is that these make believe situations often do free up emotions and attitudes and that creating a playful atmosphere may be important for achieving educational aims. Technology offers unusual opportunities for encouraging fantasy. However, there is some indication from children's games that one needs to be conscious of the danger of making the fantasy so explicit that no room is left for imagination.

Individual Differences

I have discussed four general needs, certainly not an exclusive list of the needs of students, but at least examples of motivational elements that can be used by developers of educational technology. Complicating the problem, however, is that while these are general human needs, there are great individual differences in the degree to which students are motivated in these areas. Malone, for example, found that boys were more attracted to competitive and combat types of fantasies than were girls, and of course within each sex, there are great variations in such needs as need for achievement or need for affiliation.

The question here is whether or not we should match our technology to the dominant needs of each student so that each student has an educational experience that is particularly appealing in terms of that student's needs. One of the common questions I received after some of my earlier research on interactions between teaching methods and student motives was, "Does this mean that you will use your results to match students to teachers?" I always answered that while that might be possible at some point, I was not sure that that was the ultimate answer. Rather, we need to be aware of student motives and to appeal to strong motives for students, particularly early in learning. But teaching should go beyond this to help students develop other motives for learning and to develop strategies that will enable them to learn effectively even in situations where the motivational elements are not those matching their own dominant needs.

How shall we go about matching technology with the needs of students then? My suggestion is that there are at least five implications of this approach:

1. The teacher needs to make a conscious initial diagnosis of student needs, not just motivational needs but also gaps in knowledge, concepts, and conceptual structures that need to be filled.

2. An initial diagnosis should not be taken as set in concrete. Not only are diagnoses likely to be inaccurate, but students' needs change and the teacher thus needs to make frequent checks and adjustments in the educational environment in line with emerging information from student responses as a course develops. Moreover, one should recognize that there is no neat combination of one student need for each student, rather, every student has a number of needs and in some cases what

would appeal to one of these is in conflict with others. A student, for example, might need a high degree of structure because of anxiety but also need a good deal of interpersonal support because of a high need for affiliation. Thus a lecture which might be appropriate in providing structure might not be effective in terms of the student's need for interpersonal warmth.

3. The need for frequent checks and adjustments suggests that teaching should involve more coaching than presentation of information. The effective teacher may be one who is able to mix modules making primary use of technological aids with modules involving interpersonal interaction.

4. The effective teacher needs not only to do an initial analysis of the motivational situation and make frequent adjustments but must also look at student learning strategies, styles, and conceptual structure in arriving at appropriate educational tasks for students.

5. Just as in the area of the development of meta-cognition in teaching learning strategies, so in developing motivation the effective teacher may not only wish to identify motives but to help students develop greater self-awareness of their own motivations and to increase student opportunities for rational choice of satisfactions.

IN SEARCH OF ACADEMIC EXCELLENCE: AN ORGANIZATIONAL PERSPECTIVE

Peter Seldin

Pace University

It may seem like an improbable statement, but academics can learn a few things from an ordinary household rope. Look at it this way. From a distance, the individual strands of rope aren't distinguishable. The rope looks like a single, solid piece. Now take a closer look. You begin to distinguish many sub-strands. Look even closer, and you will observe that some of the sub-strands are actually unraveled.

What we see in a rope can be applied to many colleges and universities. Every day some administrators and faculty make insular decisions without regard for the institution as a whole. They make decisions as if they are the institutions instead of being parts of large academic organisms. And too often the result is that they work at cross purposes from each other. They weaken the academic organizations. Like the rope, the organizations become a bit unraveled.

Professor Noel Tichy of Stanford University has developed a rope theory of management for business organizations. I believe that his approach can be applied with equal validity to institutions of higher education.

If colleges and universities really want to achieve and sustain a measure of academic excellence, they must learn how to orchestrate the multitude of individual decisions within the institutions. They must learn how to coordinate the technical, political and cultural parts into a cohesive whole. The parts are like the strands of the rope. When bound together their strength makes for thriving organizations. Let's take a closer look at all three parts.

First, the technical part. What are the typical problems in the technical part? Here, administrators are kept endlessly busy with students, faculty, physical plant, financial resources. When the environment changes rapidly, the administrators grapple with big, pressing problems. It may be a new technology, for example, and the problem of computer access by students. Or a new student market: older students flocking to classes.

Second, the political part. In this arena are the internal struggles for power, influence and resources between academic fiefdoms. The struggles are especially heated when administrators or faculty are dismissed, promoted or imported from other institutions. Or scarce resources are committed to a new idea that results in a new way of doing things.

Third, the cultural part. Here, are all the basic norms and values held by members of the organization. When the applecart is overturned, for example, by a decline in 18-year olds entering college and university, the institutions of higher learning find themselves in mortal combat for survival. Competition, innovation and making profit in the academic marketplace become the prevailing values, all of them in conflict with the traditional values on campuses.

Clearly, what is sorely needed in many institutions today is a unifying approach to organizational problems. These range in importance and severity from the kind of food offered to students to the kind of faculty to be hired to assure a strong institution 20 years from now.

Actually, in my view the management of higher education in troubled times is a compelling opportunity for institutions to return to the fundamental questions about their nature and purpose. In dealing with these questions, the rope theory can be of help.

All of us recognize that colleges and universities, like individuals, have special personalities. Each institution's personality is known as its academic culture. Loosely defined, academic culture is the amalgam of beliefs, mythology, values, goals and other special attributes that permeate the institution and set it apart from all others. Academic culture is an unspoken language that tells administrators, faculty and students what is important, what is unimportant, and how they are expected to do things. It is a descriptive term that is concerned with people's perception of the college or university, not whether they like it or not. It describes rather than evaluates. Let me give you a few examples. At some institutions the department chair is endowed with considerable authority and responsibility. At others, the department chair is lightly burdened. At some institutions the faculty is pressed to be involved in extensive research and publication. At others, involvement in research and publication is regarded more casually. Some institutions offer open encouragement and support to their faculty, whereas some seem to regard their faculty as adversaries.

The description of an institution's academic culture is complicated, of course, by who is doing the describing. Most institutions prefer to draw their self-portraits in bright, cheerful colors. As described in their brochures, they are fervently dedicated to their students, ethical beyond a fault, eminently fair to faculty and other employees, good neighbors, beloved by their students and admired by their competitors. This idealized self-portrait is open to challenge by many whose perception of the institutions exclude the halo.

Admittedly, it is difficult to explore the darker areas of academic culture, the subtle, intangible areas. But these areas can be charted if more light is introduced. How do we do that? First, we can solicit the teaching and non-instructional staff for their views. Second, we can talk to present and former students. Third, we can consult with academic competitors and key members of the community.

What we are trying to get at are all the characteristics that truly represent an institution's academic culture. To do this, I have adapted the work of Robbins (1984) and Likert (1967) and offer the following list.

1. Individual autonomy. What is the degree of responsibility, independence, and opportunity that individuals in the institution actually have?

2. Structure. To what degree do rules and regulations control faculty, administrative staff, and students?

3. Support. What degree of warmth and support is given by administrators to subordinates and by faculty to students?

4. Identity. To what degree do faculty and students identify with the entire institution rather than with their own department or discipline?

5. Performance reward. To what degree is a performance reward, salary increase and promotion for faculty, test and course grade for students, based on meaningful performance criteria, standards and evidence?

6. Conflict tolerance. What degree of conflict exists in faculty relationships, between faculty and administrative staff, and between faculty and students? How willing are people to be open and honest about these conflicts?

7. Risk tolerance. To what degree are those associated with the institution encouraged to be adventuresome, innovative and willing to take risks?

8. Communication pattern. To what degree does complete, accurate and meaningful information flow up, down, and across the institution?

9. Decision-making process. What degree of genuine consultation and collaboration exists in the decision-making process and to what extent do faculty, students, and non-instructional staff participate?

Each of these nine areas is a continuum in which the academic culture of a college or university can be perceived. All nine taken together give a fairly good picture of the institution. Students, faculty and administrative staff readily learn "the ropes to skip and the ropes to know," as some wag aptly put it.

The characteristics of academic culture, like the characteristics of an individual's personality, are quite stable and durable. A research-oriented administration tends to remain so year after year. An autocratic college president does not seem to mellow over the years. A kind of cultural rigormortis sets in and resists change.

It is important to keep in mind that the upper echelon of administrators beat the drums to which all the faculty and students march. It is also important to recognize that a great many of these administrators were selected for their high positions because their ways of doing things harmonzied with their superiors'. This is one of the more subtle negatives in the generally laudable promotion-from-within process. The faculty and administrative staff need an incentive to work hard and effectively and promotion is invaluable as such incentive. Trouble, is when an individual has spent thirty years in an institution and is appointed the new academic vice-president, you can rather safely bet that the institution's academic culture will remain unchanged.

That takes us to the problem of academic stagnation, even decline. And the mandatory on-going safeguards that colleges and universities should act on to renew themselves organizationally.

Today, at least we know some of the rules for academic renewal. A few were suggested by John Gardner (1976) which I have adapted to higher education. The others are suggested by experience.

First, colleges and universities must have a good program for the recruitment and development of talent. Since people are the ultimate source of renewal, there must be a steady influx of capable and highly motivated people into the institution. Equally important, there must be an on-going constructive program of career development.

Second, colleges and universities must avoid killing the individual spark in their members. Each individual must be considered a big wheel and not be reduced to a cog in the machine. The academic environment for the individual and change must be hospitable.

Third, institutions of higher education must welcome self-criticism, must encourage a climate in which uncomfortable questions can be asked, in which people are encouraged to speak their minds.

Fourth, colleges and universities must actively diminish the influence of vested interests that grow like barnacles in institutions. Such vested interests operate at every level: student, faculty, administrative staff. Every change threatens someone's privileges, someone's authority, someone's status. Breaking up vested interests is difficult and time-consuming, but somehow people have to accept that the parts are subordinate to the whole, that the success of the whole means the success of all the parts.

Fifth, since academic institutions run on motivation, on conviction, on morale, people have to learn to care. They must learn to believe that their efforts mean something for the organization and will be recognized by the organization.

Especially in recent years, a number of forces have been at work to introduce changes in the traditional ways of doing things. Colleges and universities have had to face up to such unpleasant new realities as increased costs, shortages of funds, dropping enrollments, and growing competition from multi-national corporations offering their approved classes toward academic degrees. A flood of new programs, workshops and seminars offered by colleges and universities to academic executives have as an aim coaxing the executives to discard old for new habits. Freer, more open communication has helped clear the air at a growing number of institutions. It is paying dividends. Top-level academic administrators have discovered that more open communication has been a rallying ground for faculty, student and alumni support. It tends to provide better planning and sounder decisions. A large and growing number of institutions now support open campus meetings at which proposed cuts, personnel changes, financial priorities and other items of campus interest are freely discussed.

In recent years, business and industry have looked to the Japanese techniques for managing organizations, and for good reason. They seem to work well. Our colleges and universities can do worse than look to the Japanese also for management techniques applicable to the campus. The real secret of Japan's success, according to Ouchi (1981), is effective management. Especially in the making of personnel policy is this clearly seen. Japanese management pays special attention to four areas. First, they go in for decision-making by consensus. Second, they actively promote mutual trust and loyalty between the organization and its employees. Third, they treat people with respect and dignity. Fourth, they look to the future. All four are simple concepts which college and university managements can do well to appropriate for their campuses. Adapting these business and industry concepts will require a fair degree of sophistication and sensitivity, and perhaps more than occasional frustration, but the end product is worth the effort.

Let's take a brief look at each of the four concepts. Actually, decision-making by consensus has been gaining favor in more institutions of higher education. More and more people are brought in to discuss problems whose resolution will effect them. Budget committees comprised of administrators, faculty and students have been set up at many institutions. Curriculum improvement committees have been manned by numbers of faculty. There are obvious advantages to group decisions. They produce new ideas; they bring a variety of experience and expertise together; they heighten understanding of a decision by helping to make it; they endow a decision with more acceptability because a respected group made it. One caveat perhaps needs mentioning. To be effective, the individuals in the decision-making process must have in their collective possession all the data necessary to make the decision, and in a form readily understandable.

Next, mutual trust and loyalty. The Japanese management owes much of its success to its trust of all its employees. This includes supervisors and workers. Because the management's trust is genuine, the employees respond with loyalty. The management is as conscious of the employee's concerns as the employees are of the management's. The result is a strong bonding between management and employees. Translating the Japanese management's success to colleges and universities is admittedly not easy. Trust on many campuses is often in short supply, as is institutional loyalty. A visitor to some campuses could be forgiven for erroneously concluding that administration and faculty are adversaries, as are departments, as are even faculty in the same department. But because trust and loyalty are conspicuously absent in some institutions, and only moderately present in others, in no way negates their need. Here is a real challenge to colleges and universities. Two things are certain for institutions that pick up the challenge. First, it's slow, painful work. Second, it's worth it.

Now, to dignity and respect. It has long been the tradition in Japanese organizations to treat all people with dignity and respect. In our country, it has not been a long tradition in business and industry, nor in colleges and universities, to treat all people with dignity and respect. It hasn't been even a short tradition. Much of how we operate in business and even in academia fits better in the Adam Smith philosophy of laissez-faire. Out of unaided and unhampered individual efforts comes the common good. Yet the attribute of dignity and respect in organizations has not gone completely unnoticed. It was cited by Peters and Waterman (1982) as a characteristic of an innovative, excellent organization. And the attribute is gaining more supporters. In my judgement the day that colleges and universities treat all people with dignity and respect is the day when greater productivity and efficiency by administrators, faculty, clericals and other personnel will be achieved. A word of caution. By dignity and respect I mean the real thing, not a catchword or slogan. All the employees in the college or university must be treated as partners in the common academic enterprise.

Lastly, looking to the future. How can colleges and universities adapt the Japanese organizational concept of looking to the future? A good start is to stimulate discussion on what the institutions expect to be in the next decade or two. It is not enough to live on past glory. The glory of the past inevitably fades unless renewed in the future. How is it to be renewed? What kind of problems will the institutions face in the next years? How can they be overcome? The need to look to the future has impelled many colleges and universities to engage in large fund-raising programs. But institutions cannot guarantee their futures simply by building huge war chests. Fund-raising must be harnessed to a vision of the institutions in the future. Each institution must grapple with such key questions as: What effect would a 10 to 15 percent enrollment decline over the next five years have on costs and revenues? Should the institution try to attract new client groups to maintain enrollment? If so, which groups? Are there alternative uses for campus buildings, including dormitories? How can surplus physical assets be converted into revenue producers? What are the shortcomings in the institution's current planning for the years ahead?

That brings us back to the rope theory with which we started. If top management in colleges and universities puts into practice everything suggested in this brief talk, it will be flattering to me but no guarantee that their institutions will survive and flourish. On the other hand, if top management ignores all the suggestions, their institutions may still live on and flourish. Even the ostrich with its head in the sand often survives. But wouldn't life on campus be more pleasant if all the employees and students pulled in unison on the institutional oars with ardor?

BIBLIOGRAPHY

Austin, A.E. and Samson, Z. Academic Workplace: New Demands, Hightened Tensions. ASHE-ERIC Higher Education Research Report No. 10. Washington, D.C.: Association for the Study of Higher Education, 1983.

Gardner, J. "How to Prevent Organizational Dry Rot." In H.G. Hicks and J.D. Powell (Eds.) Management, Organization and Human Resources. New York: McGraw-Hill, Inc., 1976.

Keller, G. Academic Strategy. Baltimore: The Johns Hopkins University Press, 1983.

Likert, R. The Human Organization. New York: McGraw-Hill, Inc., 1967.

Ouchi, W. Theory Z. Reading, Massachusetts: Addison-Wesley Publishing Company, 1981.

Peters, T.J. and Waterman, R.H. In Search of Excellence. New York: Harper and Row, 1982.

Powers, D.R. and Powers, M.F. Making Participatory Management Work. San Francisco: Jossey-Bass, 1983.

Robbins, S.P. Management: Concepts and Practices, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1984.

Salmans, S. "New Vogue: Company Culture." New York Times, Jan. 7, 1983.

STUDENT LEARNING IN THE UNIVERSITY

Janet G. Donald
McGill University

A consideration of how to achieve excellence in learning in the university must take into account two factors. The first is that we do not have at hand an adequate conceptualization of what excellence in learning is. In the past this has been considered the province of the subject matter expert, and measures of learning have not been studied by instructional developers in higher education. Furthermore, we attach learning to the learner rather than thinking of it as an interactive or developmental process which can be studied and improved. We have far to go to achieve a working conceptualization of student learning. Second, we must take into account that some definitions of academic excellence compete with others. For example, in a university where academic excellence is defined as leadership in one's field, measured by research productivity, how much attention can we expect to have paid to student learning? How we balance the different kinds of demands for excellence is the question at the fork in the road.

In what ways does learning in the university differ from and in what ways is it similar to what we know about learning in general? When professors talk about what they want their students to learn and how they want them to be able to think, they frequently talk about the need to be able to analyze and synthesize. They want their students to be able to break down or organize material, to determine what the essential arguments are, and to use logic. Other professors, particularly in professional disciplines, want their students to be able to solve problems; to be able to apply the models and strategies they have taught to new situations. Still other professors, more often in the humanities, talk about critical thinking; about the ability to sort the relevant from the irrelevant, or to evaluate against a set of criteria. These approaches to the process of learning in the university have certain aspects in common. The common aspects include the sorting of information into what is more important or relevant from what is less or not relevant. They include the use of logic or of determining a pattern or model and then applying it, and they include the use of standards or criteria for making judgments.

In what ways is this similar to what is known generally about the learning process? The most detailed examination of learning is that provided in the taxonomy of cognitive objectives developed by Bloom et al (1956) (Table 1). In it six kinds of learning are described, not necessarily in a hierarchy but frequently dependent on earlier kinds of learning. The most basic level is knowledge: of information, of ways of dealing with it, such as conventions or categories, and of principles or theories. The second level, comprehension, is concerned with translation or operationalization, interpretation, and extrapolation. The four other kinds of cognitive objectives are application or problem-solving, analysis, synthesis, and evaluation. Although there are differences across disciplines in the emphasis placed on different kinds of learning, our conceptualization of the learning process in the university has developed with considerable respect for the taxonomy, because all of the cognitive objectives appear to have their place in the university student's repertoire. Thus critical thinking involves analysis and evaluation, problem-solving is described in the taxonomy as application, and the skills of analysis and synthesis are named as categories in the taxonomy.

What factors affect learning? Learning is affected by three kinds of factors:

predisposing factors in the students' background, the available educational milieu, and the curriculum and instructional process. As educators we can do relatively little about the first set of factors but the conditions they impose are important to understand. We are more responsible for the second and third sets of factors. The educational milieu is often considered to be the responsibility of the university administration, but individual departments and professors also have responsibility and power to ensure a positive climate. The curriculum and instructional process are to some extent governed by the discipline but the individual professor has considerable power over what will be taught and in what way. The main limitation on this power comes from the students' entering knowledge and skills, and on their ability to interact with the professor and the learning material.

Predisposing factors, however, play a major role in affecting the learning process. Indeed, the primary method of estimating student ability to achieve in the university is by scores on achievement or ability tests. The recent demand for better teaching of mathematics and science illustrates society's recognition that earlier learning experiences determine not only the ability to learn at a later stage but the ability to function in society. From this point of view, it is surprising that universities do not attempt to set entrance requirements in a manner which can be translated into objectives at the pre-university level. This would decrease complaints about the level of preparation of entering students. What skills would normally be required to succeed in university, rather than courses previously taken or general ability, are only now beginning to be studied.

The predisposing factor that governments tend to highlight concerning post-secondary education is quite different. Over the past few years most government statements about universities have been concerned with access to higher education. In some countries, the question of access has had more to do with the nature of financial support for students who gain access to the universities, and at times these interventions have little positive effect on the educational process per se. But a more frequent pronouncement is that the opportunity to have a post-secondary education is a social good, and governments therefore publicly promote access to the university. Certainly the need for more and better trained people in the workforce is undeniable. Educators respond, albeit sotto voce, that rather than focussing on providing students with access, society should be focussing on the students' skills.

A third predisposing factor is that of students' goals. We know that students who have goals or are given goals or who are provided with them in their courses achieve better than those who do not have such goals (Carr, 1977). Often students establish goals by determining what is going to be evaluated. The evaluation plan in a course then acts as the list of course objectives for them. An example of this phenomenon was presented to us in our study of students' learning in the university. When we examined gains in knowledge in the sixteen courses which we were studying we found that the only one in which there was not a significant gain was the one in which there was no final examination (Donald, 1983). We also know that there are cultural and class differences in goals and goal-oriented behavior. For example, in those groups where education is highly valued students will expend extra time and energy in their studies and will regularly be among the high achievers. There is a difference across cultural and socio-economic groups in the willingness to deny oneself in the present in order to invest in the future. Saving for the future is equivalent in educational terms to investing in one's studies in order to reap greater benefits later. Students who are capitalists in the sense that they are willing to exchange current pleasures for future returns are providing themselves with the cues necessary to success in a program in higher education. This suggests that we should redirect our considerations of access to higher education to take into account the psychological state necessary to succeed in higher education.

The educational milieu introduces a second set of factors and takes into account both physical and psychological resources. Library and computer facilities, living and studying space, freedom from irrelevant stimuli, all contribute to the learning environment. But perhaps more important are the possibility of hearing reknowned experts in the field, of working in a group of compatible students, and of having a sense that learning is important to those around one. Considering the many changes that students are going through in their physical and emotional development at the time when they arrive in university, a focus on and respect for education is essential to aid them in making use of the resources put at their disposal. This is one area in which the availability of student advisors could crucially affect the learning process. The question here is not so much one of helping students to establish goals, but of aiding them in finding ways of meeting their goals without being led astray or becoming discouraged. Obviously the responsibility of the individual professor will vary in this area, depending upon the system of student advising, the demands placed on the professor to spend time on research or professional or administrative activities and, more generally, the reward system in the university. With what appears to be a widespread increase in the emphasis on research productivity in the university, it will be interesting to observe whether there will be a net gain or loss to the educational milieu in terms of student learning. Will the greater amount of time professors are expected to spend on their research act as a detriment to students' learning, since professors will have less time to spend with students or to respond to their needs, or will their scholarly output serve as example and beacon to the students?

The last set of factors that affect learning in the university are concerned with the process of learning: how programs are organized; what demands the curriculum places on the learner; and how the instructional process takes place and what it entails. A number of trends are occurring. In the past decade there has been a noticeable shift to delineate programs more precisely. This has arisen in response to a demand for professional accreditation for an increasing number of university programs. The accreditation process requires that objectives, content, and methods of evaluation be stated in detail. One effect of this has been that curriculum committees have spent considerable time in analysing what skills and knowledge are essential for their students. Contrary to the fears of some, the procedure has had the effect of making the curriculum more vital and compelling, rather than so structured as to stultify. The increase of professional education in the universities, a result of combined cultural and student pragmatism, has made the issue of program review and curriculum development more central to the operation of the university.

The program review process, also found increasingly, has made the university more aware of the effects of its programs. Feedback solicited from graduates and their employers adds incentive to examine the learning process more closely. The advent of the computer to the campus is a startling example of the changes taking place in the learning milieu. What does not seem to be taking shape at the same time is the use of the new technology in the learning process itself. Although the computer is recognized as an important learning and thinking device in our lives, comparatively little is being done to utilize it as a teaching tool in the university. We need a great deal more research on the learning process in different subject matter areas before we will be able to do so to any great extent, and a great deal more curriculum development on the part of instructors. The fifth generation computers, with memories based on experts' knowledge, may provide some of the information and insights necessary to be able to program learning units. Meanwhile, attempts to provide information and assignments in learning units by computer are receiving some support in the university.

What is critical to understand, as we search for excellence in the university, is how knowledge is organized and how students can benefit from the vast but to date relatively disorganized array of information available to them. The effect of different perspectives and strategies, of ways of locating and encoding knowledge, of the limits of structures, and of the uses of paradigms and techniques of theorizing, need to be studied before we can take the next leap forward.

How do we measure learning? The measurement of learning has a long history, and the numbers of standardized tests of achievement are proof of its importance in education (see Buros' *The Seventh Mental Measurements Yearbook*, 1972). The taxonomies of educational objectives have been of particular use in categorizing learning objectives and test items developed in reference to them. The development of a formal test consists of the following set of procedures: careful analysis of objectives and content; administration to a representative sample of the target population; item analysis and revision to eliminate faulty items; and the establishment of standardized scores which represent the levels of performance of the group to which the test was administered. A comparison of these steps with examination procedures in the university suggests the distance to be travelled to ensure valid measurement procedures. There are four major test formats used to evaluate learning. The first is the objective test, called objective because equally competent scorers can score them independently and obtain the same results. Examples of objective tests are multiple choice; true-false; short-answer; and matching. Three other formats are essay, oral, and performance. Guidance in test construction and validation of these various forms is available in a number of texts (see Bloom, Hastings & Madaus, 1971; Ebel, 1972; Green, 1975). In most disciplines, the first steps in test construction and validation have yet to be taken.

Two issues in the evaluation of learning have sparked considerable debate: the mastery learning model and criterion versus norm referenced measurement. Mastery learning is based on the premise that most students are capable of mastering a set of learning objectives if given sufficient time. Learning material is presented in units or modules and students are expected to achieve mastery of the material, often by meeting a standard of 80 or 90% of the test questions for that objective. Where entry to the university is selective rather than open, it could be expected that the student learning rate would be sufficiently homogeneous that a mastery learning paradign could be relatively easily administered.

Mastery learning, however, requires an individualization of the learning situation. In it, students are tested to determine their entering knowledge, then are given feedback at each stage of their learning, followed by a summative evaluation which provides a record of achievement at the end of instruction. Students thus compete against a criterion rather than their classmates. The advantages include more positive student attitudes and an emphasis on learning rather than on grades, but the disadvantages include greater administration time and, potentially, a greater range of achievement over a defined time period. With the increased use of technology, particularly the computer, in education, the administrative disadvantages of the mastery model could feasibly be overcome. A great cost, however, would still exist in the programming of instructional units.

The debate over criterion versus norm referenced evaluation rests in whether judgments of learning should be made in comparison with the learning objective or with one's fellow students. Most grading systems are norm-referenced, that is, they are based on an average level of performance and students are graded in relation to that average. Criterion referenced measures, on the other hand, are based on particular abilities or objectives and the degree to which a student has mastered them, as in mastery learning. The disadvantage with criterion referenced tests, according to Ebel (1972), is that to be meaningful, criteria of achievement must represent broad standards, and these are infrequently found in education except where a high degree of skill is developed in a limited set of abilities. Is what is learned in the university capable of being delineated in a sufficiently clear and concise manner such that criteria of achievement could be agreed upon? To answer this question we must ask ourselves with what precision we know what we know. In some disciplines it could be expected that the components and relationships between them, and the general pattern or structure is sufficiently clear to allow clear standards for learning to be delineated. For example, in mathematics or the physical sciences, within a paradigm there is a great deal of consistency. In other, more divergent disciplines, the task may be more difficult. If there are many ways of analysing a poem, criterion referenced testing may not be appropriate. Without stating standards, however, it is difficult to support the idea that learning has indeed taken place.

In an attempt to find a measurement of student learning, we studied the use of key concepts in courses across disciplines as units of knowledge (Donald, 1983). Research methodology suggests that the strongest measure of student learning is the gain in course knowledge from the beginning to the end of the course. In the courses we were studying, the average student gain in knowledge of the key concepts was from 3 to 38%, with a with a mean gain of 18%. Although 18% might appear to be a modest gain for what are fundamental or linking concepts in a course, it compares favorably with an annual expected gain of 12% on standardized tests of ability. The amount known at the end of the course, ranging from 32 to 68% with a mean of 56% suggests how far we are from meeting a mastery learning paradigm in university education. This research tells us that we can, in an immediate if primitive way measure learning gains in a course. We are attempting to develop more sophisticated measures of student learning through course propositional analysis and studies of analytic skills.

What is the nature of the learning process? Research on learning processes in higher education has dealt with learning or cognitive processes on one level and on another, cognitive macroprocesses, also known as study skills. The work on learning or cognitive processes has focussed on the acquisition of skills such as problem-solving or procedural learning. In an attempt to explain skill acquisition, Anderson (1982) divided the development of cognitive skills into two stages, a declarative stage in which facts about a given domain are interpreted, and a procedural stage in which knowledge in a domain is embedded in procedures for performing a skill. A general complaint voiced by university professors is that their students appear to easily achieve a declarative knowledge in a given subject matter area, but do not then go on to incorporate it in a full schema. Thus we hear statements such as "My students can give examples but they cannot give the general case" or "They fail to be able to apply the information they can put down on paper". Anderson suggests that there is a compilation process in which skill transits from the declarative to the procedural stage through two subprocesses, composition and proceduralization. In composition, sequences of production are collapsed into a single production, similar to the inductive process of moving from individual examples to the general rule. The second subprocess, proceduralization, embeds factual knowledge into productions, in a manner similar to the production of a schema. Once proceduralized, further learning processes operate on the learned skill to make the productions more selective in their range of applications, that is, to refine their use. This approach to the process of learning has been applied to language acquisition and to mathematical problem solving and appears to have general applicability. It takes us one step beyond the episodic/semantic distinction made by Tulving (1972) to describe memory and two steps beyond the deep/surface structuring discrimination made by followers of Chomsky, because it suggests a series of mechanisms which can be applied and tested in a learning situation.

Instructional task analysis has also yielded new insights into the nature of the learning process. For example, in the work of Reif, Larkin and Brackett (1976), the learning of a physics relationship was broken down to enable the researchers to develop an instructional procedure for teaching "understanding". The student was first given an explanation of why understanding basic relations was important, and was then given a set of abilities in the form of questions to be used as a checklist. The student was given an explicit example, then explicitly structured practice on relations, and was tested on the relations. The period of systematic training continued for 4 weeks. They found that students who had gone through their training procedure were able to apply the skill in their courses and in regular text material, where before they had been unable to make sense of the physics course material. It seems that this step of explicitly stating and training how to recognize relationships prepared students to learn.

This research is supported by our finding that the processes required to represent learning material are similar to the process of analysis. We have used the definition of analysis as consisting of three operations from the taxonomy (Bloom et al, 1956). First, material is broken down into its components or constituent parts to identify or classify them. This requires discrimination and recognition of relevant versus irelevant information. The second operation consists of making the relationships among components explicit to determine their connections and interactions, a process similar to the procedure employed by Reif, Larkin & Brackett. Third, there must be recognition of the organizational principles, the arrangement and structure which hold the knowledge and comprehension together as a whole. This step is similar to schema formation or to the transit to procedural knowledge suggested by Anderson. In our study of methods of analysis, the methods we have used to discriminate components include key concept delineation, feature analysis, and propositional analysis (Donald, 1984). To make relationships explicit, we found that word association and similarity judgment methods were of limited use, but that tree structuring and graphing procedures, with a prompted explanation of the nature of the relationship drew out the relationships between important concepts in the course.

To find the organizational principles or underlying structure, we studied the relative importance of the key concepts, did a similarity grouping of all relevant concepts in the course and of the key concepts, and examined the form of the tree structure. The analyses of individual key concepts, which described their components, also showed structure when diagrammed. From this exercise we were able to determine that organizing operations were based on grouping and ordering, on focussing, and on the degree of tightness or looseness and the consistency or divergence in a representation.

One further approach to the nature of the learning process is that of Perry (1970) who studied student development in the university. He was able to discriminate stages of cognitive and ethical development in which students progressed from a position where they were authority bound through stages of relativistic thinking to a point where they could deal with a relativistic world and still make commitments. This development moves from an absolutist and closed position to one in which several perspectives can be entertained and manipulated as the situation requires. Perry's approach is close to that taken in the taxonomy of affective objectives (Krathwohl et al, 1964), but considering that attitudes are prelude to actions, the approach taken by Perry is useful in describing university-level developmental stages. The study also suggests the connection between cognitive and moral development and their interdependence.

What do future developments portend for student learning? The student learner is in a strange predicament. On the one hand, society presents an ever increasing challenge to learn and to succeed in the world. On the other hand, there has been a devaluation in education which is reflected in the unwillingness of governments to provide the unquestioned support which they provided a decade ago. Social problems of aging, nuclear annihilation, and economic recession occur outside the milieu of education and divert attention from the investment in education. It has been said that governments no longer look to the universities for possible solutions to social problems, sensing that the solutions lie elsewhere. In response to decreased government support, some universities have cut costs in their services and have increasingly directed their attention to research. One expected effect of this will be less assistance to learners.

At the same time, students are becoming better consumers and therefore more able to make their needs known, and research into cognitive processes is approaching a stage where it could usefully be applied. University offices or centres charged with the responsibility of improving the teaching and learning process are faced with the challenge of smaller budgets and at the same time, the potential of coming to grips with some of the most interesting learning problems. If such centers are not rent asunder by the winds of recession, they stand the chance of entering into a new phase of instructional development. We now have the technology to develop instructional units with a data base, assignments, and feedback mechanisms. Recent experiments with the fifth generation of computers are based on the premise that expert knowledge can be made accessible. The ways of making that knowledge useful by training students in the requisite search or analytic strategies are still to be developed. But we are now much closer to being able to test the gaining of knowledge than we were.

Do future developments suggest changes in the role of the university in ways that will affect student learning? The challenge that the university has accepted is to become a place of excellence. That means setting standards in a way that has not been done before. It also means placing new demands on students to excel when they are already under considerable stress. Will those who set university policy and priorities see excellence in student learning as one, and will they provide the assistance for the development of teaching and learning innovations? Is there an unfortunate association in the minds of brilliant individualists that they learned by themselves and that therefore today's students can learn in spite of a lack of attention on the part of their professors? We know that students ascribe their learning to themselves and give relatively little credit to their professors. Will professors continue to be willing to be supportive while not being rewarded for it? Can nurturance live alongside excellence? These questions blur the more substantive ones of the nature of student learning in the future. We have great possibilities, but many hurdles to jump before we have a clear run to our goal of excellence in student learning.

REFERENCES

Anderson, J. R. (1982). Acquisition of cognitive skill. Psychological Review, 89 (4), 369-406.

Bloom, B. S. (Ed.) (1956). Taxonomy of educational objectives. New York: David McKay.

Bloom, B. S., Hastings, J. T. & Madaus, G. F. (1971). Handbook on formative and summative evaluation of student learning. New York: McGraw-Hill.

Buros, W. (1972). The seventh mental measurements yearbook. Highland Park, New Jersey, Gryphon Press.

Donald, J. G. (1983). Knowledge structures as predictors of student learning. Paper presented at the annual meeting of the Canadian Psychological Association, Winnipeg, Manitoba.

Donald, J. G. (1984). Cognition and instruction. Invited address to Canadian Psychological Association, Ottawa.

Eble, R. L. (1972). Essentials of educational measurement. 2nd edition. Englewood Cliffs, New Jersey, Prentice-Hall.

Krathwohl D. K., Bloom, B. S. & Masia, B. B. (1964). Taxonomy of educational objectives: handbook II: affective domain. New York, David McKay.

Perry, W. (1970). Forms of intellectual and ethical development in the college years: a scheme. Holt, Rinehart and Winston, New York.

Reif, F., Larkin, J. H., & Brockett, G. C. (1976). Teaching general learning and problem-solving skills. American Journal of Physics, 44, (3), 212-217.

Tulving, E. & Donaldson, W. (Eds.) (1972). Organization of memory. New York: Academic Press.

IN SEARCH OF ACADEMIC EXCELLENCE : SAMPLES OF EXPERIENCE

Bradford W Imrie

University Teaching and Research Centre
Victoria University of Wellington
New Zealand

A paper invited for presentation as part of a Seminar: IN SEARCH OF ACADEMIC EXCELLENCE, at the Tenth International Conference on IMPROVING UNIVERSITY TEACHING July 4-7, 1984, at the University of Maryland.

Author's Note:

In 1974 I travelled from the University of Leeds to the University of Heidelberg to present a paper at the First IUT Conference. At that conference I had the pleasure of meeting our conference host Professor Massey, our Seminar chairperson Professor Seldin and also Professor McKeachie. I mention these three persons because of the relevance of their experience to the theme of the seminar.

To Ben Massey I offer my sincere congratulations on this tenth IUT anniversary, for the personal and professional qualities which have made the IUT Conference a vital part of the continuing search for academic excellence. To Peter Seldin my appreciation for his courteous persistence in keeping in touch with me and for this particular opportunity to learn from his experience because there are valuable insights for higher education to be obtained from management analogies. Specifically this paper includes some samples of Bill McKeachie's experience because of the excellence of his contributions to the literature of higher education.

IN SEARCH OF ACADEMIC EXCELLENCE : SAMPLES OF EXPERIENCE

Bradford W Imrie

INTRODUCTION

This paper has been prepared in response to an invitation to participate in a seminar, 'In Search of Academic Excellence'. The invitation suggested that the paper should focus on three topics: (a) improving teaching performance (b) changes in teaching methods and (c) changes in staff/faculty development. The time available for seminar presentation was specified as 15 minutes. Accordingly, the samples of experience discussed in this paper are highly selective due to the following considerations: (1) the time available to prepare and present the paper, (2) the comprehensive nature of the topics, (3) the international context of the conference, and (4) the venue of the Tenth International Conference on Improving Teaching.

During the last decade, in particular, much has been written about the topics addressed in this paper but not much can be generalised and substantiated. For each topic, therefore, there is particular reference to student learning, assessment of student performance and the learning experience of the individual student.

However, there are two generalisations which are worth considering as samples of experience. Ten years ago, McKeachie (1974) wrote about the decline and fall of the laws of learning and his paper was reprinted in 'How Students Learn', a selection of readings in higher education edited by Entwistle and Hounsell (1975). McKeachie commented:

> 'It is fitting that I learned from E L Thorndike's grandson, Robert M Thorndike, what I regard as the best generalisation we can currently make. He suggests that knowledge of results is informative and when the learner knows or is told what to do to correct errors.' (McKeachie, 1975:47)

A second generalisation is offered by Ausubel (1968):

> 'If I had to reduce all of educational psychology to just one principle, I would say this : The most important single factor influencing learning is what the learner already knows. Ascertain this and teach accordingly.' (p iv)

Both generalisations emphasise the relationship between learning and assessment with reference to the learner. To be effective, teaching performance, teaching methods and faculty development require teachers to be knowledgeable about learning and assessment so that they can be professionally competent in managing the conditions of learning for the benefit of individual students. There are, of course, other considerations and McKeachie and Kulik (1975) offer some commonsense:

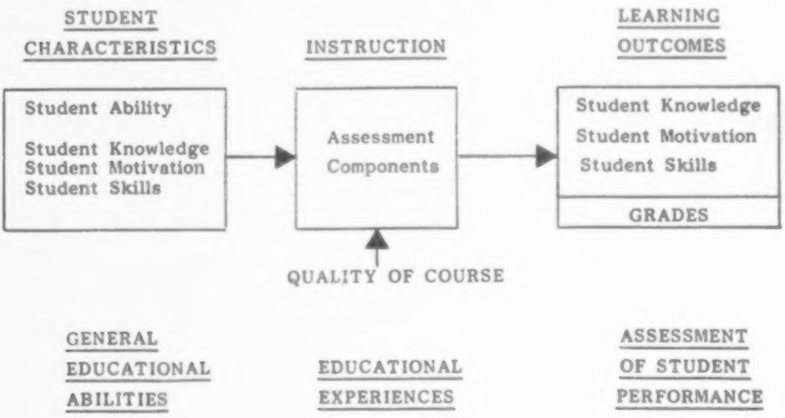
> 'Unfortunately simple generalisations are suspect. Progress has been slow not just because of our lack of theorists and researchers, but because education really is complicated.' (p 199)

Developing academic excellence in terms of teaching and learning is an exercise in solving problems posed by the interactions between teacher, subject and student in a formal course of education or programme of study. Models are particularly useful in problem solving and move beyond the limitations of generalisations. The teacher-subject-student interactions are described by Hyman (1970) in a model which considers the contexts of time and place and stresses the potential of dynamic relationships between teacher and subject, teacher and student.

> 'Models of the instructional process may limit one's awareness and ability to change but, properly conceived, they can be tools to increase one's capacity for perceiving and understanding the complexity of this very special changing human interaction.' (McKeachie, 1974:187)

Models, therefore, have the potential to assist with solving the problem of optimising the teaching-learning transactions in our educational organisations. The concept 'organisation' is used rather than 'institution' because of the potential usefulness of management concepts relevant to formal teaching and faculty development.

FIG. 1 A MODEL FOR STUDENT EDUCATIONAL EXPERIENCE (Imrie, 1983)


STUDENT CHARACTERISTICS
INSTRUCTION
LEARNING OUTCOMES
Student Ability
Student Knowledge
Student Motivation
Student Skills
Assessment Components
Student Knowledge
Student Motivation
Student Skills
GRADES
QUALITY OF COURSE
GENERAL EDUCATIONAL ABILITIES
EDUCATIONAL EXPERIENCES
ASSESSMENT OF STUDENT PERFORMANCE

A model which incorporates the generalisations stated previously and subsumes Hyman's interaction model is shown in Fig 1. This model of student educational experience (Imrie, 1983) is based on a model of school learning (Bloom, 1976); it also incorporates the elements of a model described by Smith (1960) which classifies into three categories 'all the variables involved in and related to the actions which make up teaching'. In Fig 1 the educational experiences of the course are depicted as assessment components and this concept of a course is developed further by Imrie (1983) as a student-referenced assessment model.

The traditional final or end of course examination is a particular category of assessment of student performance; it is often an inadequate sample of student experience on which to base judgement of achievement and potential ability. The examination has had a major effect in shaping student response to formal courses but has not been adequately evaluated as a measuring instrument either for aptitude treatment interaction or for justifying inference of ability. In rethinking student achievement McLean (1983) notes that, 'Just because a student gets a question wrong doesn't mean the student doesn't know the answer.'

Supplementing such models are taxomonic concepts of levels of learning or education. Well-known examples are those relating to educational objectives (and assessment) in the cognitive domain (Bloom et al. 1956) and in the affective domain (Krathwohl et al. 1964). While Bloom's ladder analogy illustrates the essential relationship between affective and cognitive experiences of learning, Steinaker and Bell (1979) offer a different approach to teaching and learning in the form of a taxonomy of educational experience. The 'Experiential Taxonomy' provides a powerful structure for the management of learning experiences to improve teaching performance and methods, and for the organisation of faculty development. Essentially the course interaction experiences are categorised for the student as exposure, participating, identifying, internalising and disseminating.

Generalisations, models and taxonomies all provide opportunities for faculty to learn from experience so that so-called trial and error methods are replaced by strategies which adapt and apply successful principles and procedures in pursuit of academic excellence.

IMPROVING TEACHING PERFORMANCE

It has been argued that the improvement of teaching or teacher performance is for the purpose of improving student learning. Appropriate outcomes might then include that the student knows how to learn, passes examinations, and retains and values learning. In the model (Fig 1) these learning outcomes represent changes in student quality as a result of the educational experiences which represent (to the student) the quality of the course. A distinction is made between student quality (course-specific) and generalised student ability with reference to Vernon's (1961) model of the structure of educational abilities.

From the teaching point of view the model identifies factors with potential for the improvement of student quality. First, course quality includes such considerations as course management, subject competence, teacher enthusiasm, communication skills and clear consistent statements of assessment requirements. With an understanding of principles of learning and of the implications of time for course design and assessment, all of these considerations are teacher controlled and have improvement potential. Time and place contexts (Hyman, 1970) deal with the significance of timetabled time for teaching, non-timetabled time for learning, the duration of the course, and the time allocation priorities of students coping with the assessment requirements of other courses and other commitments. Entwistle (1976) has also commented that assessment provides the main incentive for students so that study behaviour is affected by the timing and the form of examinations. The overall quality of a course is then determined by the correspondence of assessment requirements with course objectives as perceived and experienced by each student (Imrie, 1983).

Second, if teaching performance is to improve student performance then there is potential for interaction between the course experiences managed by the teacher and the student entry characteristics (specific to the course) of motivation, knowledge and student skills. Of particular significance is the student skills factor which has only recently been recognised as an important teacher-student responsibility in the context of a course of study. In 1976, Goldschmid and Goldschmid recommended the inclusion of 'learning skills' in (inadequate) aptitude treatment interaction studies 'to take into account the specific ways in which an individual goes about learning'. In 1975, in their concluding comments on 'How Students Learn', Entwistle and Hounsell stated that:

> 'Teaching strategies, if they are to be fully effective, may need to be complemented by conscious and carefully constructed attempts to foster the development of appropriate study skills and habits.' (p 191)

McKeachie (1983) advocates 'learning how to learn' courses for students, which 'should first develop confidence in techniques that emphasise meanings and, second, ability to apply the techniques'. McKeachie admits that this outcome has developed from intermittent studies over a period of 35 years.

With the benefit of hindsight it is regrettable that the teacher's professional responsibility for student development of relevant learning skills was not recognised earlier.

A distinction is thus clearly drawn between teaching the subject (only) and teaching students, and refutes the anti-professional defence that 'anyone who knows the subject can teach (the subject)'. If academic excellence is to be an attainable objective and not just a pious statement in a graduation address, then excellence in teaching must mean to teach well so that each student learns well. The good teacher has to be competent and therefore confident in managing the interactions of the variables identified as influencing student experience. Managing to teach well is an objective as well as the means of achieving that objective. Definitions of good teaching and student success provide a framework for the improvement of teaching performance, the development of appropriate teaching methods and for faculty development procedures. For example:

Eble (1976) provides a definition which encompasses previous considerations:

> 'Good teachers will be those who are master of a subject, can organize and emphasize, can clarify ideas and point out relationships, can motivate students, can pose and elicit useful questions and examples, and are reasonable, imaginative and fair in managing the details of learning'. (p 18)

And Parkyn (1967) after a comprehensive study of first year university students in New Zealand, offered a conclusion which is still very relevant:

> 'The final success of the students, however, depends not only on their ability but also upon their determination to succeed, the time that they can put into their studies, the conditions in which they live, their mental and physical health, the process of examination, teaching methods and many other circumstances.' (p 210)

As well as distinguishing between ability and student quality factors, Eble describes the context in which each student makes study decisions for a particular course in a programme of study. In their study of achievement motivation Covington and Omelich (1979) suggest that the achievement process should be reviewed in terms of 'the individual's efforts to protect and enchance a sense of competency'. This is the anxiety that eventually prompted Macquarie to develop learning skills programmes but which also requires teachers to incorporate specific learning skill development in their courses. Commonsense also applies to motivation as indicated in a conclusion reached by Beard and Senior (1980):

> '... motivation of students in universities and colleges is largely a matter of suitability of courses to their varied needs, initial experiences which enable them to adjust to independence and study methods appropriate to higher education, to stimulating

> teaching and informative assessment of their performance.' (p 91)

Professionally, a university teacher should be competent in organising the course-related experiences of students and aware of related issues. With experience (and self appraisal) competence will become excellence as the teacher becomes expert in managing the interactions between subject and student with reference to contexts of time and place.

However, Genn (1982) in his study of the pursuit of excellence in university teaching in Australia, emphasises that teaching, however great its importance, is generally not the only thing that university teachers have to do. Genn cites Falk and Lee Dow (1971) and Thorpe and Schmuller (1954) as sources of ideas about excellence in teaching that correspond to the considerations already discussed.

So, with these samples of experience available and with awareness of the different contexts for teacher and student, what can be done to improve teaching performance?

As long ago as 1970, Powell commented:

> 'Many universities are experimenting with courses ranging from one day to two weeks in duration, which aim at making (new) teachers better acquainted with techniques of teaching and examining and, in general, sensitising them to the many problems which they will encounter in the course of their work. In this area there is no need for further research, since we already know what requires to be done: what is wanted now is the desire, the energy and the resources to get on and do it.' (p 206)

In the 1970s the Clinic to Improve University Teaching at the University of Massachusetts developed the teaching skills approach to the analysis and improvement of teaching. Their procedures were adapted for the development of a strategy for evaluating university courses to improve teaching performance (Clark, Imrie et al, 1977). Complementing courses on teaching and evaluation of teaching, access to the literature of insights and experiences of successful teaching is also available in journals and handbooks e.g. Bergquist and Phillips (1977).

Improving teaching performance is very much part of professional development which Gaff (1979) concludes has been put to the test and does work. But Clift and Imrie (1979) consider that effective professional development has little to do with attendance at courses:

> 'A major objective of any in-service programme must be to create, within the institution, an atmosphere ... in which the quality of teaching is seen as the intentional product of a number of considered decisions made by people at all levels within the institution.'

What is needed, therefore, are institutional policies and their implementation (deeds not words) for the improvement of teaching and learning. The basis of such policies is the requirement of competence and the recognition of excellence. Policies have been discussed elsewhere (Imrie, 1981) with reference to freedom and control; management, in pursuit of excellence, would affirm that 'those who implement the plans must make the plans' (Peters and Waterman, 1982). Policy issues will be discussed later with reference to staff development, and McKeachie (1975) stresses the provision of 'ample scope for commonsense' in any system that seeks to improve teaching performance.

CHANGES IN TEACHING METHODS

Changes in teaching methods will be discussed which stimulate students to be more active in learning and to take more responsibility for their learning. The teaching methods can be described as learning strategies managed by the teacher so that the student not only learns but knows that learning has taken place thus generating competence and confidence. Such strategies involve the skilled use of assessment not for the award of formal grades but to provide feedback to improve subsequent performance.

The teaching methods or strategies to be discussed are DIAGNOSTIC TESTING, MASTERY LEARNING, PROBLEM SOLVING and DISCUSSION TECHNIQUES. The changes are those which recognise and encourage individual difference and development within a framework of criterion referenced attainment. These methods can be used separately or in association, in the context of a course, and are discipline free. The changes in teaching methods are intended to involve teacher and student in solving the particular problem of optimising the limited but unique opportunities provided by a course for the acquisition and retention of meaningful learning.

Some definitions are called for. A course is a series of regular timetabled occasions when, at least, the time and place contexts for teachers and students are the same. All other perceptions might be different but much organisation is required for these encounters to take place. There is a set duration to the course, there are set assessment requirements and the rest of the time (for learning) is not controlled by the teacher but may be influenced by a teaching strategy.

Entwistle and Hounsell (1975) make a particular point about learning and teaching methods:

> 'In developing more effective methods it seems crucial that lecturers should be more aware of the basic principles of learning and of the wide individual differences, both in ability and in

> learning style, which exist among students.' (p 9)

Novak (1980) shares useful insights about learning as the internalisation of new (course) knowledge, when he distinguishes between:

> 'rote learning wherein new knowledge is *arbitrarily* incorporated into cognitive structure, in contrast to meaningful learning wherein new knowledge is assimilated into *specifically relevant* existing concepts. (p 136)

Perry (1970) has noted that learning is influenced by the intellectual development of students in the college years and it is interesting for this international conference to note that Mason (1980) reported the work of Perry to the HERDSA Conference in Sydney, in her paper on the use of cognitive development models to guide teaching methods, based on her Master's studies at the University of Maryland.

DIAGNOSTIC TESTING was recommended *and* guaranteed to improve performance by Kozima (1983) last year at the Ninth IUT Conference *and* the advice was reported in the 'public' press:

> 'Most students are neither eager to hear a new lecture nor familiar with the material to be covered ... begin every new lecture with a 10 minute test on material covered in the previous lesson.'

This form of assessment provides a relevant opportunity for students to accept responsibility for learning, without fear of failure and with feedback to identify strengths and weaknesses. At the beginning of a course, diagnostic testing can be related to the entry characteristics indicated in the model in Fig 1; the results can confront the student with an appraisal of 'preparedness' for the course and also provide peer group profile information of interest to students as well as teachers.

Computer processes can make the results readily available and also provide the essential 'remedial' opportunities for students to do something about acquiring prerequisite knowledge. For example, tests show that students who have passed mathematics courses (i.e. examinations) at high school, do not have the knowledge assumed by university teachers; both teachers and studnts need to understand that reality. Diagnostic testing for course-specific study skills has been developed by Mahalski (1982). She designed a timetabled laboratory (as part of the course) on study skills and attribution of success. Attribution theory (Weiner et al. 1971) and her inventory of study skills are used to enable students to test (for themselves) the hypothesis that students who attribute success at their last major examination to internal courses, are more likely to score highly on an inventory of study skills than students who attribute their success to external causes. Mahalski's Academic Informatio

Inventory has three sub-scales of 25 items each:

- information acquisition (listening, note-taking, amount of study)
- information processing (summarising, trying to understand, memorising)
- student performance (writing reports, answering examination questions)

Students are informed that this inventory has been designed to

> '(1) focus your attention on how you learn and hopefully introduce you to some new ways of learning;
>
> (2) allow you to discover whether you have a better or worse set of learning skills than the average student.'

Diagnostic testing can thus be perceived by students as relevant to a course of study; it also introduces the student to 'locus of control' theory in a very practical way. Informally, of course, every time a teacher listens to and advises a student with a problem, 'diagnostic assessment' takes place.

MASTERY LEARNING also involves diagnostic assessment by providing opportunity for students to sit and resit tests (with feedback) until a mastery level of attainment (usually 80% or more) has been reached with reference to specified criteria. Although mastery learning procedures were used with success before 1968, it was in that year that Bloom (1968) and Keller (1968) published papers which provided comprehensive models for mastery learning. Bloom's learning through mastery approach was developed for secondary education, while Keller's 'Goodbye, Teacher ...' principles at the tertiary level are now widely referred to as Keller Plan or as a Personalised System of Instruction (PSI) or something like it (SLI)! In fact it is a system of personalised instruction (Imrie et al. 1980) which not only allows but also encourages the student to choose a level of attainment as an aim, and to work independently of the fixed pace of a class timetable. Assessment is without 'fear of failure' and provides feedback with reference to criteria known to the student - conditions that are consistent with the 'best generalisation' which McKeachie (1975) could make about helping students learn.

Also in 1968 Dubin and Taveggia, after summarising nearly a hundred studies carried out over four decades on the effectiveness of various methods of college concluded that there was no measurable difference among truly different instruction methods (when evaluated by student performance on final examinations). Subsequently, Taveggia (1976) presented summary evidence that Personalised Systems of Instruction (incorporating mastery learning) are, indeed, more effective than traditional teaching methods. Kulik, Kulik and Smith (1976), using meta-analysis, came to a similar conclusion.

The principle of mastery has been identified as having special significance for effective teaching, assessment and learning: for PSI *and* for conventional lecture-paced methods. There can be no compromise if universities aspire to standards of excellence (Imrie et al. 1980). In Sherman's words (1974):

> '... not only the student, but also the teacher must be creative, imaginative, and must earn his 'A'. It is dangerous, exciting-and challenging, but teachers should not settle for less.'

The work of Bloom (1976), Getzels and Jackson (1962) and Gronlund (1970) is used to develop the concept of a two-tier structure of learning and assessment with reference to a suggestion by Nisbet (1971) that there should be two different types of assessment. If a course of study can be represented by objectives, these objectives should form the basis of indentifiable and assessable outcomes. Accordingly, in Fig 2:

> 'Tier I includes basic abilities identified as recall/application which are appropriate for the practice and performance conditions of criterion-referenced mastery learning. Tier II is associated with the higher abilities of problem-solving and consequently, of norm-referenced assessment of performance.' (Imrie, et al. 1980:116).

FIG. 2 A TWO-TIER STRUCTURE OF ASSESSMENT (Imrie et al., 1980)

	(BLOOM, 1956)	(GETZELS and JACKSON, 1962)	(GRONLUND, 1970)
TIER II PROBLEM-SOLVING (higher abilities)	EVALUATION SYNTHESIS ANALYSIS	'revising the known, exploring the undetermined, constructing what might be'	'development level outcomes'
TIER I RECALL APPLICATION (basic abilities)	APPLICATION COMPREHENSION KNOWLEDGE	'retaining the known, learning the predetermined, conserving what is'	'low-level outcomes as minimum essentials or prerequisites'

(*Note: APPLICATION is usually the highest level required for conventional 'problem-solving' as in examinations.)

PROBLEM SOLVING

Tier I (Fig. 2) incorporates a 'minimum essential' level of recognition (or recall) of familiar types of 'problems' and routine application of techniques which have been mastered. There is usually no redundancy or absence of required information to be used to produce a 'correct' answer. Tier II problem solving requires the development of abilities to deal with unfamiliar situations which require the identification and posing of a problem before (pre)requisite skills can be applied. Decisions about information have to be made and different solutions evaluated. Essay writing is a common example of problem solving.

In a relatively new journal 'Higher Education Research and Development', Woods (1983a) gives details of the five stages considered necessary to introduce explicit training in problem solving into formal courses of study. As Editor of 'PS News', Woods has provided access to a wide range of successful experience 'to share ideas so that we can all bring to the learning situation the very best'. For example, Woods (1983b) brings to the attention of a readership in excess of 800, details of 'an excellent overview of PS' (Frazer, 1982) which includes an analysis of the reasons why students fail to solve problems:

> 'Students may not start a problem because they lack confidence or motivation, they have too much information or they cannot obtain an overview nor can they identify goals and subgoals. Students may start but cannot finish because of the above reasons and they lack and cannot recall the required knowledge, that knowledge is incorrectly recalled or applied, they fail to use items of knowledge given to them (in the problem statement), they fail to approximate and they become mentally fixed in a particular mode of thought.'

Frazer (1982) also recommends five steps to teach PS. In the same issue of 'PS News' (and in other issues) Woods (1983b) refers to the work of de Bono, which provides a final sample of problem solving experience and insight (slightly adapted):

> 'It is axiomatic that a student's knowledge and experience are limited. When determining a solution to a problem what matters is the way the student's mind uses the limited material at its disposal. Education has always regarded its prime duty to be transfer of knowledge, reinforced by the realities of traditional examinations, but the knowledge may not outlast the exams for which it is stored. The amount of knowledge that has to be transferred is increasing all the time and as a result the student today has much less time to think than ever before.
> Thinking can be treated as a learnable skill and is so taught in business and in computing. In business poor thinking means bankruptcy and in the computer world it means a waste of expensive computer time. In education, alas, it is undetectable. The convenience of problem-solving as one format for practising thinking is that there is a defined objective.' (de Bono, 1972;9-11)

DISCUSSION TECHNIQUES

Problem solving and thinking are indeed relevant to changes in teaching methods involving discussion techniques - the fourth example to be discussed. Discussion techniques have the potential to provide for the dynamic interaction of all of the elements of Hyman's model; dynamic in the interactions within a specified timetabled context and developing with time over a programme of study. Managing to teach using discussion techniques requires discussion skills, organisational skills and a willingness to share responsibility with the students; it does not necessarily require the presence of the teacher. The principles of the 'Experiential Taxonomy' (Steinaker and Bell, 1979) are particularly relevant to learning through the experience of discussion. The experience of participating, identifying, internalising and disseminating can be summarised as 'I do not know what I think until I hear myself say it.' This process of articulating 'new' comprehension corresponds to Abercrombie's (1960) statement that 'discussion in a group does for thinking what testing on real objects does for seeing.'

Providing such references, however, is unlikely to change teaching methods but it is important for faculty who are trained to learn by reading to be aware of the literature of small group teaching and learning. For staff development purposes, to introduce new teaching methods and to improve teaching performance, files of selected readings (e.g. Imrie 1973, Imrie 1980) provide an opportunity for faculty to learn from experience; also a context for discussion. Such readings invariably include extracts from accounts of experience in the UK. For example, Abercrombie (1979) has written about the aims and techniques of group teaching as an authority whose work has provided standards of attainable excellence in teaching and learning. She has set out the changes that are needed in teaching methods:

> '(a) the main aim of education must no longer be thought of as that of transmitting information, but rather that of encouraging autonomous learning; and consequently
>
> (b) the relationship between teacher and student must be regarded not as that of giver and receiver of information, but as that of co-operating explorers of knowledge;
>
> (c) the relationship between pupils, instead of being ignored as of neutral or negligible value in the education process, must be recognized and fostered as a powerful medium for interactive or collaborative learning.' (Abercrombie, 1978:2)

Bligh (1975) has a comprehensive chapter on discussion methods which is based on one of the programmes in his excellent radio series on teaching and learning in higher education (Bligh, 1973). The chapter starts with a discussion of 'groups without teachers' which can be effective whether timetabled or not.

In a study of seminar work in higher education Rudduck (1978) reviews the relevance of discussion methods to a wide range of disciplines including those which traditionally 'have no time' for such methods. As with Abercrombie, she provides an excellent opportunity for faculty to read and benefit from successful education experiences. For example, she refers to the work of Nisbet (1966) whose 'statements worth making' discussion method with senior students develops interaction and autonomy.

An example of USA experience influencing UK development of discussion techniques is that of Hill's (1969) model which has been adapted by Northedge (1975) and by Gibbs (1977) for Open University students. An excellent introduction to these sources of experience is the paper by Stanton (1982) which also provides insight into faculty development. Also from Australia, Brewer (1979) has made an impressive contribution to the improvement of teaching methods with her work on group teaching strategies for promoting individual skills in problem solving in botany.

Another compilation of samples of experience is provided by Collier (1983) writing about the management of peer-group learning with particular reference to syndicate methods in higher education.

> 'In a syndicate-based course ... the bulk of the work consists of a series of assignments carried out on a co-operative basis by the syndicates acting as teams, for much of the time.' (p 3)

Syndicates work together to solve problems and, as with other successful discussion techniques, students develop discussion skills such as listening and note-making; in groups, student collaboration means that more sources of information are used more efficiently in response to well-structured tasks organised by the teacher/consultant. The basic principle of sub-groups can be used successfully with classes of any size, in a lecture, laboratory or seminar.

For discussion techniques to be effective in combination with other teaching methods, staff and students need training to be able to realise the potential of the interaction opportunities made available. Management of discussion requires structure; useful insights can also be obtained from research experiences of staff development in management training as described by Rackham, et al. (1971). The implications of an introductory small group development programme for academic staff are discussed by Imrie and Murray (1980).

CHANGES IN STAFF/FACULTY DEVELOPMENT

In this paper there has been an attempt to sample the experience of a range of people who have written to share their insights about the complexity of higher education. In particular reference has been made to the considerable experience of McKeachie. One final comment is worth considering with reference to his concern that there should be 'ample scope for commonsense' in systems devised to assess teaching effectiveness. McKeachie (1975) adds:

> 'I might also point out that any of the criticisms of assessment of teaching may equally well be levelled against our assessment of student learning. I have noted no reluctance on the part of professors to undertake the complex task of assessing students.' (p 76)

Of course, as Genn (1982) points out, teaching is not the only professional responsibility which faculty have; other responsibilities are research (and consultancy) and service (to university and community). Although the terms staff development and faculty development are still used, more attention is now being given to professional development as a more comprehensive concept which includes all the professional activities and responsibilities of academic staff (Imrie, 1981). If McKeachie's comment can be widened to apply to assessment of professional performance then it has a significance for professional development similar to the significance that assessment of student performance has for student learning. Assessing students and appraising teaching are considerations addressed by Clift and Imrie (1981).

While faculty have considerable pre-service training in matters related to subject competence there are aspects of research such as funding and management of projects, supervision of research students, that are relevant to programmes of professional development and assessment of performance. Aspects of teaching responsibility already mentioned in this paper include course design and management, development of student learning skills, and assessment of student performance. A particular aspect of service responsibility relates to development of professional skills required to work effectively in a group 'to solve problems.' Faculty spend a great deal of time in groups called committees to which the principles discussed earlier, of problem solving and effective discussion, are very relevant.

The changes that are taking place in different universities and in different university systems reflect movement towards the professionalisation of departments and universities in a context that provides for freedom of thought and control of quality. Freedom and control are issues relevant to members of a profession who should accept responsibility for the practice of the profession (Imrie (1981). These issues of 'institutional management' and 'staff autonomy' (Fordham and Ainley, 1980) can be used to polarise argument or to optimise action.

Nine years after Powell (1970) asserted that 'we already know what requires to be done' (about the development of teaching skills), Gaff (1979) made a comment about experiences of improving university teaching in the USA:

> 'The amount of practical experience that has been gained in the practice of faculty development is in fact extensive. On the basis of this accumulated experience and emerging positive evaluations, it is now possible to conclude that, in general, professional development has been put to the test and it does work.' (p 245)

Another international conference (at Oxford: British Council, 1979) evolved the following definition of professional development (see also Greenaway and Harding, 1978:12):

> 'Institutional policies, practices and programmes directed at the skills, knowledge and attitudes of academic staff and designed to assist them to meet more fully their own, student and institutional needs.'

The implications of implementing policy as well as formulating policy have to be considered by the people involved and there is obvious correspondence between the above definition and the development model offered by Francis (1975) for the 'institutional process which seeks to modify the attitudes, skills and behaviour of faculty members toward greater competence and effectiveness in meeting student needs, their own needs, and the needs of the institution.'

Jones and Imrie (1983) report a review of professional development policies for academic staff in Australia and New Zealand, and consider two principal areas: career development and the work of faculty. Most Australian universities make provision for an academic development unit (Johnson, 1982) but intrinsic implementation of professional development policy depends very much on the 'attitude, skills and behaviour of the head of department' (HOD). Of the 12 (out of 19) Australian universities responding (in 1981) only two considered that new HODs were prepared in any way for their new responsibilities. If a university can be considered as a business organisation the lack of training provision for 'middle management executives' can have very serious consequences if the organisation wishes to be identified with excellence, or make changes towards that goal.

Stone and Silverthorne (1983) consider that change is a fact of life and that a climate for excellence can be created in an academic environment. However,

> '... the issue facing universities is not one of deciding how to adapt to change but rather being able to develop strategies to plan, direct and control change.' (p 45)

They describe a change process based on a model proposed by Batten (1966) they also draw attention to the need to associate performance standards with the goal of excellence and refer to the Australian Vice-Chancellors' working party on academic staff development which recommends:

> '... a formal evaluation programme for all staff involving systematic and regular review of performance in all roles. Such evaluation should be comprehensive both in terms of activities evaluated and sources of evaluative information used. Evaluation should be undertaken for both formative and summative purposes.' (AVCC, 1981: xi)

The AVCC Report (1981) is a most interesting document and it will have far-reaching effects in the Australian university system. The working party was convened by the Vice-Chancellor of the University of Queensland, who had previously been responsible for the triennial evaluation scheme at Simon Fraser University. Two Canadian sources of experience are introduced in the appendices of the report, one an extract from the 'Guide to the teaching dossier' (Shore et al. 1980), the other an outline of a comprehensive evaluation program (Murray, 1980). Both of these Canadian experiences have particular significance for professional development since they emphasise the comprehensive nature of the professional responsibilities of faculty and the corresponding requirement to use appropriate sources of evaluative information both for judgement and for improvement. Murray's comprehensive plan for the evaluation of teaching is thoroughly researched and documented; it provides for the 'management procedures which are needed to help encourage good academic practice' as recommended in the report 'Excellence in Diversity' (SRHE, 1983a). This report arises out of a programme of study organised by the Society for Research into Higher Education (SRHE) and financed by the Leverhulme Trust. Ten volumes report the results of a study into the future of higher education in the UK (SRHE, 1983b). The report (SRHE, 1983a) on excellence also makes the link with quality of performance:

> 'All recommendations to improve professional standards and to create new opportunities for learners and teachers will be ineffective if there is no mechanism to evaluate professional standards and to assess the new opportunities that are offered.

While advocating professional development units the report states that there is an inadequate basis of knowledge for professional development. This seems to challenge the conclusion of Gaff (1979) and others but it is supported by Cannon (1983) who suggests that the professional development of Australian university teachers has been principally an act of faith. His analysis of why university teaching has not responded readily to attempts to improve it, produced five conclusions about professional development:

'1 The problem is extraordinarily complex

2 Attempts to solve the problem are novel

3 There was, and still is, a weak theoretical and knowledge base for action
4 The resource base for change is limited
5 Is professional development the best focus for improvement strategies?' (p 31)

In raising the last question Cannon (1983) refers to the distinction made by Gaff (1979) between professional development, instructional development and organisational development. With limited resources a choice may be required.

In a discussion of professional development policy, Imrie (1981) gives two examples of theoretical models for change and implementation. In addition, a theoretical base is provided by the work of Steinaker and Bell (1979) in terms of their experiential taxonomy which provides the sequence 'for intrinsic professional development and for teacher change.' Like other taxonomies, the experiential taxonomy was developed with particular reference to secondary education but the principles are relevant to university or tertiary education.

This theoretical base can be recognised in professional development projects commissioned by the Higher Education Research and Development Society of Australasia (HERDSA) - a 'down-under' counterpart of SRHE. The first of these projects was the design of a three-day 'Evaluative Skills Workshop' which was then taken to major cities in the Australian states and to New Zealand. A further development was to provide opportunity for people to be trained in conducting the workshop so that the experience could be disseminated effectively within institutions. 'Informed Professional Judgement' (Roe and McDonald, 1984) is the outcome and is a practical review of principles and procedures for the evaluation of courses, course units and teaching. In addition, HERDSA has published a booklet on planning and conducting reviews (McDonald and Roe, 1984) and a second national workshop has been developed for heads of departments.

Such examples of initiatives for professional development taken by organisations like SRHE and HERDSA indicate another vital contribution to the search for academic excellence. A more recent organisation, the Pacific Rim Association for Higher Education (PRAHE), indicates growth in this area as well. The annual conferences and publications of such organisations provide an important national and regional context for the developments described in this paper.

IN CONCLUSION

It is appropriate to conclude this paper with two final samples of experience cited in the paper 'Managing to Teach Together' (Imrie, 1974), since both refer to excellence:

> 'What is at stake is the ability of universities to adapt to the economic and social demands of society, whilst at the same time remaining centres of intellectual excellence, discovery and innovation.' (Layton, 1968: viii)
>
> 'Many university teachers - though potentially excellent at teaching - have not been interested enough in teaching or motivated strongly enough to be concerned even to teach well what they know so well!' (Niblett, 1974: 121)

The samples of experience discussed in this paper have been selected to show that, in many instances, the search for excellence has been successful. Indeed many papers presented at this conference complement the experiences selected in this paper. Other conference papers address the issues raised by the above quotes. The principal issue is the quality of management: at institutional level, at departmental level and at personal level. Learning from experience is a proper basis for managing to teach well enough so that the probable outcome is excellence in teaching and learning.

REFERENCES

ABERCROMBIE, M.L.J. Aims and Techniques of Group Teaching, SRHE Monograph 12, Society for Research into Higher Education, University of Surrey (1979)

ABERCROMBIE, M.L.J. The Anatomy of Judgement, Harmondsworth: Penguin (1960)

ABERCROMBIE, M.L.J. and TERRY, P.M. Talking to Learn: Improving teaching and learning in small groups, SRHE Monograph 32, Society for Research into Higher Education, University of Surrey (1978)

AUSUBEL, D.P. Educational Psychology: A Cognitive View, New York: Holt, Rinehard and Winstone (1968)

AVCC Academic Staff Development, Occasional Paper No. 4, Canberra:Australian Vice-Chancellors' Committee (1981)

BATTEN, J.D. Beyond Management by Objectives, American Management Association (1966)

BEARD, R.M. and SENIOR, I.J. Motivating Students, London: Routledge and Kegan Paul (1980)

BERGQUIST, W.H. and PHILLIPS, S.R. A Handbook for Faculty Development Vol. 2 The Council for Advancement of Small Colleges, Washington D.C. (1977)

BLIGH, D. 'Thinking in Groups', Programme 5 in Teaching and learning in Higher Education, 9 March 1973. A series of programmes broadcast by BBC Radio 3 Producer - HEFFERMAN, M. (1973)

BLIGH, D. 'Discussion Methods' (152-172) in Bligh, D. et al. Teaching Students Exeter University Teaching Services (1975)

BLOOM, B.S. (Ed.) Taxonomy of Educational Objectives: Handbook 1, Cognitive Domain, David McKay (1956), Longman (1972)

BLOOM, B.S. Human Characteristics and School Learning, New York: McGraw-Hill (1976)

BLOOM, B.S. Learning for Mastery', Evaluation Comment, 1, 2 UCLA-CSEIP (1968)

BREWER, I.M. 'Group Teaching Strategies for Promoting Individual Skills in Problem-Solving', Programmed Learning and Educational Technology, 16, 2, 111-128 (1979)

BRITISH COUNCIL 'The Training and Professional Development of Academic Staff: Practice and Purpose', An invited international conference, Oxford (1979)

CANNON, R.A. 'The Professional Development of Australian University Teachers: An Act of Faith?' Higher Education 12, 19-33 (1983)

CLARK, M., IMRIE, B.W., JOHNSTON, L.C. and MALCOLM, W.G. 'A Strategy for Evaluating University Courses' 274-281, Aspects of Educational Technology XI: The Spread of Educational Technology, London: Kogan Page (1977)

CLIFT, J.C. and IMRIE, B.W. Assessing Students, Appraising Teaching, London: Croom Helm (1981)

CLIFT, J.C. and IMRIE, B.W. 'New Zealand - working with teachers towards course improvement' Staff Development in Higher Education, London: Kogan (1979)

CLINIC, 'The teaching skills approach to the analysis and improvement of teaching', The Clinic to Improve University Teaching, University of Massachusetts (1977)

COVINGTON, M.V. and OMELICH, C.L. 'Are Causal Attributes Causal? A path analysis of the cognitive model of achievement motivation.' Journal of Personality and Social Psychology 37, 9, 1487-1504 (1979)

COLLIER, G. (ed.) The Management of Peer-Group Learning: Syndicate methods in Higher Education, SRHE Monograph 55, Society for Research into Higher Education, University of Surrey (1983)

DE BONO, E. Children Solve Problems London: Penguin Education (1972)

DUBIN, R and TAVEGGIA, T.C. The Teaching-Learning Paradox, Centre for the Advanced Study of Educational Administration, University of Oregon (1968)

EBLE, K.E. The Craft of Teaching, San Francisco: Jossey Bass (1976)

ENTWISTLE, N.J. (Ed.) Strategies for Research and Development in Higher Education, Amsterdam: Swets and Zeitlinger (1976)

ENTWISTLE, N. and HOUNSELL, D. (Eds.) *How Students Learn*, Reading in Higher Education 1, Institute for Research and Development in Post-Compulsory Education, University of Lancaster (1975)

FALK, B and LEE DOW, K. *The Assessment of University Teaching*, London: Society for Research into Higher Education, Monograph 16 (1971)

FORDHAM, A. and AINLEY, J. *The Evaluation of Staff Development in Technical and Further Education: A Proposed Methodology*, Melbourne: Australian Council for Educational Research (1980)

FRANCIS, J.B. 'How do we get there from here? - Programme Design for Faculty Development' *Journal of Higher Education*, XLVI, 6, 719-732 (1975)

FRAZER, M.J. 'Solving Chemical Problems' *Chem. Soc. Review*, 11, 171 (1982)

GAFF, J.C. 'The United States of America - toward the improvement of teaching' in TEATHER, D.C.B. (Ed.) *Staff development in Higher Education*, London: Kogan Page (1979)

GENN, J.M. *The Pursuit of Excellence in University Teaching in Australia*, Sydney: HERDSA (1982)

GETZELS, J.W. and JACKSON, P.W. *Creativity and Intelligence*, New York: John Wiley and Sons (1962)

GIBBS, G. *Learning to Study: A Guide to Running Group Sessions*, Institute of Educational Technology, The Open University (1977)

GOLDSCHMID, B. and GOLDSCHMID, M.L. 'Enabling students to learn and participate effectively in higher education', *Journal of Personalized Instruction*, 1, 2, 70-75 (1976)

GREENAWAY, H. and HARDING, A.G. *The Growth of Policies for Staff Development*, SRHE Monograph 34, Society for Research into Higher Education, University of Surrey (1978)

GRONLUND, N.E. *Stating Objectives for Classroom Instruction*, New York: Macmillan (1978)

HILL, W.F. *Learning Thru Discussion*, London: Sage Publications (1969)

HYMAN, R.T. *Ways of Teaching*, New York: Lippincott (1970)

IMRIE, B.W. 'Managing to Teach - Together' *Proceedings of the International Conference on Improving University Teaching*, ppB19-35, University of Maryland, Heidelberg, May 1975

IMRIE, B.W. (Ed.) *Small Group Methods in Higher Education: Resource File*, Standing Committee on Teaching Techniques, University of Leeds (1973)

IMRIE, B.W. (Ed.) *Small Group Development Programme: Reference File*, Tertiary Education Institute, University of Queensland (1980)

IMRIE, B.W. 'Grading and Student Quality', Occasional Paper 8, University Teaching and Research Centre, Victoria University of Wellington (1983)

IMRIE, B.W. and MURRAY, H.G. 'Implications of a Small Group Development Programme for Academic Staff', Conference on Technology in Education, The Australian Society of Educational Technology, Melbourne (1980)

IMRIE, B.W., BLITHE, T.M. and JOHNSTON, L.C. 'A Review of Keller Principles with reference to mathematics courses in Australia', British Journal of Educational Technology, 11, 2, 105-121 (1980)

IMRIE, B.W. 'Freedom and Control in Higher Education: Who needs a policy' Higher Education, 10, 551-572 (1981)

JOHNSON, R. Academic Development Units in Australian Universities and Colleges of Advanced Education, Canberra: Commonwealth T.E.C. (1982)

JONES, J. and IMRIE, B.W. 'Professional Development Policies for Academic Staff in Australia and New Zealand' in MOSES, I. (Ed.) Research and Development in Higher Education 6, 137-146 Sydney: HERDSA (1983)

KELLER, F.S. 'Good-bye, Teacher .....' Journal of Applied Behaviour Analysis 1, 78-89 (1968)

KOZIMA, H. 'Tests advocated for every lecture' The Chronicle of Higher Education 18, July 13 1983

KRATHWOHL, D.R. (Ed.) Taxonomy of Educational Objectives: Handbook 2, Affective Domain, David McKay (1964), Longman (1972)

KULIK, J.S., KULIK, C-L.C. and SMITH, B.B. 'A meta-analysis of outcome studies of Keller's personalized system of instruction', American Psychologist 34, 4, 307-318 (1979)

LAYTON, D. (Ed.) University Teaching in Transition Edinburgh: Oliver and Boyd (1968)

MAHALSKI, P.A. 'Attribution of Success and Study Skills' Department of Psychology, Otago University (private communication, 10.6.82)

MASON, K. 'Issues in tertiary teaching: the use of cognitive development models to guide teaching method', pp 49-61, in MILLER, A.H. (Ed.) Research and Development in Higher Education 3, Sydney: HERDSA (1980)

McDONALD, R.H. and ROE, E. Planning and Conducting Reviews in colleges and universities, Sydney: HERDSA (1984)

McKEACHIE, W.J. 'Student Anxiety, Learning and Achievement' Engineering Education, 73, 7, 724-30 (1983)

McKEACHIE, W.J. and KULIK, J.A. 'Effective College Teaching' Review of Research in Education 3, 165-209 (1975)

McKEACHIE, W.J. 'The Decline and Fall of the Laws of Learning' in ENTWISTLE, N.J. and HOUNSELL, D.J. (Eds.) How Students Learn, University of Lancaster (1975)

McKEACHIE, W.J. 'Instructional Psychology' Annual Review of Psychology Vol. 25 (1974)

McKEACHIE, W.J. 'Assessing Teaching Effectiveness: Comments and Summary' pp73-78 in Proceedings of the (First) International Conference on Improving University Teaching, Heidelberg (1975)

McLEAN, L. 'Rethinking Achievement Testing' E & M Newsletter No. 40, Ontario Institute for Studies in Education (1983-84)

MURRAY, H.G. 'A comprehensive plan for the evaluation of teaching at the University of Queensland' Tertiary Education Institute, University of Queensland (1980)

NIBLETT R.W. Universities between Two Worlds University of London Press (1974)

NISBET, J. 'Innovations and necessary developments in Assessment in Higher Education' in Innovation in Higher Education Society for Research into Higher Education, University of Surrey (1972)

NISBET, S. 'A Method for Advanced Seminars' Universities Quarterly, 20, 349-355 (1966)

NORTHEDGE, A. 'Learning through discussion in the Open University' Teaching at a Distance, 2, 10-19 (1975)

NOVAK, J.D. 'Methodological Issues in Investigating Meaningful Learning' in ARCHENHOLD, W.F. et al. (eds.) Cognitive Development Research in Science and Mathematics, University of Leeds, 129-148 (1980)

PARKYN, G.W. Success and Failure at the University Vol. 2, Wellington: NZCER (1967)

PERRY, W.G. Jr. Forms of Intellectual and Ethical Development in the College Years, New York: Holt, Rinehart and Winston (1970)

PETERS, T.J. and WATERMAN, R.H. In Search of Excellence: Lessons from America's Best-Run Companies, New York: Harper and Row (1982)

POWELL, J.P. 'University Teaching Methods' in BUTCHER, H.J. and PONT, H.B. (Eds.) Education Research in Britain 2, University of London Press (1970)

RACKHAM, N., HONEY, P., COLBERT, M.J., and others, Developing Interactive Skills, Wellens Publishing (1971)

ROE, E. and McDONALD, R.J. Informed Professional Judgement: a guide to evaluation in post-secondary education, University of Queensland Press (1984)

RUDDUCK, J. Learning through Small Group Discussion: A Study of Seminar Work in Higher Education, SRHE Monograph 33, Society for Research into Higher Education, University of Surrey (1978a)

SHERMAN, J.G. (Ed.) PSI - Personalized System of Instruction: 41 Germinal Papers, W.A. Benjamin (1974)

SHORE, B.M. et al. 'Guide to the Teaching Dossier: its preparation and use', CAUT Bulletin 15-23 (May, 1980)

SMITH, B.O. 'A Concept of Teaching', *Teachers College Record* 61,229-241 (1960)

SRHE *Programme of Study into the Future of Higher Education*. The Leverhulme Series, Society for Research into Higher Education, University of Survey (1983b)

SRHE *Excellence in Diversity*, The Leverhulme Report, SRHE, University of Surrey (1983a)

STANTON, H. 'Improving the University Tutorial', *Improving College and University Teaching*, 30, 2, 87-90 (1982)

STEINAKER, N.W. and BELL, M.R. *The Experiential Taxonomy*, New York: Academic Press (1979)

STONE, B. and SILVERTHORNE, R.A. 'Creating a climate for excellence in an academic environment' in MOSES, I (Ed.) *Research and Development in Higher Education* 6, 35-45 Sydney: HERDSA (1983)

TAVEGGIA, T.C. 'Personalized Instruction: a summary of comparative research, 1967-1974', *American Journal of Physics*, 44, 11, 1028-1033 (1976)

THORPE, L.P. and SCHMULLER, A.M. *Contemporary Theories of Learning with Application to Education and Psychology*, New York: Ronald Press (1954)

VERNON, P.E. *The Structure of Human Abilities* London: Methuen (1961)

WOODS, D.R. (Ed.) *PS News* 27, Department of Chemical Engineering, McMaster University (1983b)

WOODS, D.R. 'Introducing Explicit Training in Problem Solving into our Courses', *Higher Education Research & Development*, 2, 1, 79-102 (1983a)

WEINER, B., FREIZE, I., KUKLA, A., et al. *Perceiving the Causes of Success and Failure*, New York: General Learning Press (1971)

AN INVESTIGATION OF THE DUTIES OF EXTERNAL EXAMINERS IN HIGHER EDUCATION IN THE UNITED KINGDOM

David Warren Piper
Centre for Staff Development in Higher Education
University of London Institute of Education

The higher education system in the United Kingdom has two sectors. The two systems of governance, finance, and quality control are quite discrete. One sector is comprised of the universities. The greater part of the universities' funding comes from the Government Department of Education & Science. The money voted for the universities is given as a lump sum to the University Grants Commission (a body largely made up of senior university staff), which then divides the cake between the various universities. Each university possesses a Royal Charter which authorises it to award degrees, leaving to each institution the responsibility for adopting appropriate academic standards.

The other sector is variously known as the Local Authority Sector or Public Sector. It is comprised of the polytechnics and a number of high level courses run in some other institutions of higher education. Unlike the universities these institutions are the responsibility of local government. However, not all local authorities have their own polytechnic and some relatively small authorities find themselves responsible for a large institution. There is, therefore, a system of distributing funds to those Local Authorities responsible for high level institutions or courses. The National Advisory Board is formally chaired by a Minister of Education and is responsible for distributing this central pool of monies. Whereas the universities are in principle dividing their cake between them according to their own lights, the division of the Local Authorities cake is more directly influenced by national policy.

No Local Authority college has the right to award degrees. Instead, a Charter is held by the Council for National Academic Awards (CNAA) which has the responsibility for validating all courses at degree level and for judging whether an institution is a fit and proper place in which such courses might be offered. The CNAA has a large number of specialist panels, organised according to subject matter, to whom all course proposals must be submitted. In addition, panels regularly visit and inspect institutions looking, among other things, at their management structures, their procedures for quality control, and the facilities such as library and teaching support services.

Both sectors, however, adopt a system of external examiners. This arrangement is peculiar to British higher education and those systems based directly upon it. The basic principle is that every taught undergraduate and postgraduate course has a number of internal examiners (most often two) and one external examiner. The external examiner is drawn from another institution (normally a university), and is usually a person of some standing in the subject of the course. The external examiner normally is required to agree an examination paper before it is set and has the right to examine any script or other examinable work submitted by any candidates. Under CNAA Regulations and in some universities, the external examiner's judgement is, to all intents, final.

The external examiner system is accepted as the principle method by which consistency of standards is maintained in both the universities and local authority sectors. It is surprising therefore, that the system has been so little investigated in the past and not surprising that it has come currently under greater scrutiny at a time when the United Kingdom has a national administration seriously questioning the quality of the education it finances.

INTRODUCTION

There has been very little published on the role of external examiners and apparently no systematic investigation of their duties. According to the CNAA Regulations, the external examiners' duties are :

> "To ensure that academic awards are comparable in standards to awards granted by universities".

In their turn the universities too appeal to a normative standard. A typical university regulation reads :

> "The primary duty of an external examiner is to ensure that the standard of the degree of the university of ---- in his field of study is consistent with that of the national university system".

The British degree is, de facto, a national qualification. The quality of such a qualification must remain consistent. There are a number of types of consistency implied :

- from year to year in a given course;

- between course options;

- between universities and polytechnics within a subject;

- between courses in related subjects;

- between different subjects for nationally recognised levels of accreditation (eg a bachelor's degree).

Can an external examiner contribute to all these forms of consistency? If so, how? A number of types of involvement were considered. Involvement in :

- the planning of courses (including the mode of assessment);

- the conduct of courses;

- the setting of assessable tasks (eg examination papers);

- the moderation of internal examiners' marks by the calibration of marks against a national norm, second marking borderline candidates, monitoring extreme marks (usually fails and first class honours), arbitrating when internal markers disagree and through marking additional forms of examination most usually a viva voce;

- protecting students' interests.

THE INVESTIGATION

The enquiry fell in two parts. First, an examination of a small number of examination regulations from universities and the CNAA. Second, a questionnaire sent to all heads of departments of a sample of three polytechnics, three universities and three colleges of the University of London. Responses were received from 60 polytechnic heads of departments and 108 university heads of departments.

It seems a significant proportion of external examiners comment or contribute to the planning of courses and to the planning of examination marking schemes. Very few are involved in drawing up examination regulations. In all three tasks however, the external examiners in polytechnics are more likely to be involved than their counterparts in universities. The calibration of marks against a national standard was considered as a duty of the external examiners in about two-thirds of the departments, despite this being the key responsibility mentioned in most regulations. The moderation of candidates' marks, particularly as a marker of borderline candidates, was seen as a duty by over 80% of the departments sampled. On the matter of calibration, there was a statistically significant difference between universities and polytechnics : polytechnics were more likely to see this as a duty of the external examiner. On the matter of moderation there were no significant differences between polytechnics and universities.

Respondents were asked whether external examiners undertook viva voce examinations on taught courses. The results were roughly comparable between undergraduate and postgraduate courses and between polytechnics and universities. In all cases about a third of the departments interviewed all candidates, about a third no candidates, and the remainder selected candidates, most often those on borderlines.

Departments were asked whether external examiners wrote a formal report. This appears to be a universal practice in polytechnics where such a report is required by CNAA Regulations. In universities, however, only about a quarter of examiners wrote their report.

Finally, turning to postgraduate examination by thesis, departments were asked at what stage in the students' progress external examiners were appointed. The results suggest that polytechnics are more likely than universities to appoint examiners before a thesis has been drafted, however, in both types of institution it is more normal to choose an external examiner after the thesis has, at least, been drafted. Only about 10% of university students were consulted over the choice of external examiner contrasting with the polytechnics, where about half were.

FIGURE ONE : CONSIDERED BY DEPARTMENTS AS DUTIES OF EXTERNAL EXAMINERS EVEN IF NOT EXERCISED

	UNDERGRADUATE		POSTGRADUATE	
	%	*rs	%	*rs
Calibrate range of marks to standards of other institutions	65	87	63	44
Additional marker borderline candidates	86	114	89	64
Scrutinise all 1st Class	70	86	68	42
Scrutinise all fail	73	90	70	48
Arbitrate when marks not agreed by internal examiner	76	100	68	46
A person to whom students can appeal for additional assessment	10	12	9	6

*rs = raw score

FIGURE TWO : CONSIDERED BY DEPARTMENTS AS DUTIES OF EXTERNAL EXAMINERS EVEN IF NOT EXERCISED, UNIVERSITIES AND POLYTECHNICS COMPARED

		UNDERGRADUATE		POSTGRADUATE	
		UNI-VERSITY	POLY-TECHNIC	UNI-VERSITY	POLY-TECHNIC
Calibrate range of marks to standards of other institutions	YES	47	40	28	16
	NO	37	10	23	3
		$p<.01$		($p<.05$)	
Additional marker borderline candidates		NO SIGNIFICANT DIFFERENCES BETWEEN POLYTECHNICS AND UNIVERSITIES			
Scrutinise all 1st Class					
Scrutinise all fail					
Arbitrate when marks not agreed by internal examiners					
A person to whom students can appeal for additional assessment					

FIGURE THREE : DUTIES UNDERTAKEN BY EXTERNAL EXAMINERS 1982-3 ON TAUGHT COURSES

	UNDERGRADUATE		POSTGRADUATE	
	*%	rs	*%	rs
Commented on/ contributed to planning of course	52	72	38	29
Substantially involved in drawing up examination regulations	8	11	12	9
Commented on/Contributed to marking scheme	65	94	60	49

* Those who answered 'yes' as a percentage of those who answered 'yes' or 'no'.

FIGURE FOUR : DUTIES UNDERTAKEN BY EXTERNAL EXAMINERS 1982-3 ON TAUGHT COURSES, UNIVERSITIES AND POLYTECHNICS COMPARED

		UNDERGRADUATE UNI-VERSITY	UNDERGRADUATE POLY-TECHNIC	POSTGRADUATE UNI-VERSITY	POSTGRADUATE POLY-TECHNIC
Commented on/ contributed to planning of course	YES	27	45	13	16
	NO	59	7	43	5
		$p<.0001$		$p<.0001$	
Substantially involved in drawing up examination regulations	YES	2	9	3	6
	NO	82	39	52	15
		$p<.01$		$(p<.02)$	
Commented on/ contributed to marking scheme	YES	51	43	30	19
	NO	41	10	30	3
		$p<.01$		$p<.01$	

In each of these cases, ug + pg polytechnics more likely to answer 'yes'.

FIGURE FIVE : TAUGHT COURSES - DID EXTERNAL
UNDERTAKE ANY VIVA VOCE EXAMINATION?

	UNDERGRADUATE		**POSTGRADUATE**	
	%	***rs**	**%**	***rs**
Number of candidates interviewed	39	55	36	28
All candidates interviewed	31	43	32	25
Some candidates interviewed :				
All borderline	21	30	18	14
All potential fail	14	20	10	8
All potential 1st class	17	24	8	6
NO SIGNIFICANT DIFFERENCES BETWEEEN POLYTECHNICS AND UNIVERSITIES				

FIGURE SIX : DID THE EXTERNAL EXAMINER WRITE A FORMAL REPORT?

	UNIVERSITY	POLYTECHNIC	TOTAL %
YES	23	53	51
NO	71	1	49

FIGURE SEVEN : WHEN ARE EXAMINERS APPOINTED?

		UNI-VERSITY	POLY-TECHNIC	TOTAL	%
Shortly after registration		1	3	4	4
After approach outlined		0	1	1	1
Just before first draft		15	9	24	22
Completion of first draft		32	7	39	35
When thesis complete		42	1	43	39
External involved in upgrading MPhil to PhD	YES	9	10		
	NO	77	11		
		(p<.001)			

NEED FOR DEVELOPING HUMANISTIC VALUES IN THE TEACHING AND LEARNING ENVIRONMENT: A PARADIGM SHIFT

by

Professor Kishore Gandhi

While much of the contemporary education thought and practices have gone into the issues of programmed learning, multimedia teaching and micro-teaching but no subject has been so much neglected as the development of humanistic values and creativity in the teaching-learning process. This is a subject, deep, dark and full of promises and might provide a convincing alternative to the human despair.

In looking forward towards the future development of higher education for the emergent and foreseeable needs of the individual and society, a few major trends may be marked. There is considerable evidence, backed by empirical and general studies, that higher education has to play a crucial role in facing the threats and promises of the future with firmness and foresight. Such a promise implies the emancipation of the individual from multiple fears: nuclear, biological and psychological and unfolding the possibility of his evolutionary growth, leading to the emergence of new designs of living and a harmonious world society.

In a rapidly growing environment, if the West is disturbed by the pollution of environment and various kinds of alienations--alienations from the self, from one's fellow men, from society, from nature, from what one does, and finally, God or the mystery of being, the East is equally disturbed by poverty and impoverished rural environment. Is poverty not the greatest polluter to the human environment? Poverty and alienation are the two major factors which are making the human race uncomfortable. In such a climate of opinion, the question which we have to address ourselves today is how to evolve new technologies, new learning methodologies and technical know-how and know-why to accelerate the pace of development to improve our physically degraded environment without dislocating the beauty of nature and ensuring an integrated development of man and social organism. We have to treat this planet as though it were a living organism, with all the love and care and understanding which any living organism deserves. This is a balance which we have to strike thoughtfully. Indeed, this balance has to be between technology and transcendence, science and insight and know-how and know-why.

In any analysis of the education system of both the developed and developing societies, we cannot afford to overlook the divergent problems faced by them, depending upon their level of technological and economic growth. Intoxicated by the spell of triumphant technology and dialectical materialism, the western man has acquired the power to wreck the biosphere, and while wrecking it, to liquidate himself. By wiping out creatures of extraordinary beauty and forests, he has rushed in where angels fear to tread, and in ignorance and arrogance has everywhere upset the ecological balance in a very alarming way. Out of step with nature, with self and the laws of historical or evolutionary growth, he has gone out of focus.

Living under the shadow of multiple fears: nuclear, biological and psychological, the modern man continues to be "haunted by realities he has refused and denied, the fury of unpurged images, flame upon flame." The decisive element in the predicament of modern man is that he has lost his glassy essence and is playing such fantastic tricks which make the angels weep. He has become a misfit in a world he has himself created. Schizophrenia pursues him like wild Furies. Basically, his choice is between two possibilities, turning into a robot or becoming a responsible actor in the evolutionary process. Simply, a victim or a hero? Who is to be blamed for this state of affairs, if not academic specialization and fragmentation. In such a situation, can we think of evolving an integrated system of education which will facilitate the process of the modern man's recovery from the bestiality, boredom and anomalies? Or is he beyond redemption?

Let us briefly look at the role of education in the developing societies which has to be different from the developed societies. These societies are engaged in determining their priorities and goals of development for eradicating illiteracy, poverty, ignorance and disease. Unlike the West, these societies have to use science and technical education to accelerate the pace of development for improving their impoverished rural environment and to fulfil the basic minimum needs of their population. At the same time, they have to guard themselves against all the onslaughts of ecological imbalances so that the aesthetic beauty of the human is not endangered. Consequently, the focus of education has to be on the total development of man because he is the object and subject of development. It must cover man's hopes, aspirations and welfare. The quality of life rather than mindless consumerism, growth with social justice rather than GNP should be the determining variables in the developmental programs. As Norbert Weiner has said, "We must make a human use of human beings. We need creativity, not to fulfil degree requirements, but to fulfil human lives."

Education is a multidimensional process and must strive to actualize the maximum potentialities of the individual. It must build the fundamental bridge between the world of objective observation and intellectual abstraction and of what may be called the married world of immediate experience in which nothing can be separated and between highly specialized process can provide a stable future to the entire human race which currently is harassed on hearing the sirens of prophets of gloom and doom, the prospect of a planet in peril, when an idiot hour can destroy what it has taken centuries to build. It, therefore, represents a profound challenge to the creative and evolutionary growth and should be education's first, if not only, concern.

II

What does the contemporary educational scene tell us? Glib generalizations about the education crisis have become very common on the educational landscape. Let us not forget that the credibility of the educational system is everywhere meaningless. There is a mood of cynicism, helplessness, drift and even futility against the way it operates in the total system. A set of questions are being openly posed against the existing educational systems in the world. These are: What is this education at all for? What is ahead? Does it prepare us to face the challenges of the future human nature? How should we be related to the planet on which we live? How are we to live together satisfactorily? How are we to develop our individual potentialities? How to liberate our minds from fear and generate the spirit of fellow-feeling and sense of belonging to the community? How can education and satisfy our biological and psychological needs and open our various layers of consciousness? How can it generate love, understanding and help us transcend our empirical ego? These and many other interrelated questions are being debated in the public platforms, educational conferences and seminars. To answer these questions would call for a fresh look at the total perspective of the educational system.

Looking in depth, in our eroded educational milieu, everything human has been reduced to the state of a robot and man has become a cosmic or evolutionary drop out. No wonder, the lifestyle of the people tends to be casual and superficial. The communication of value and human heritage are faced with a set of challenges. This loss of seriousness has adversely affected the quality of life and communication at every level. As the young architect told the sage of Popthink, Marshal McLuhan, "You see, my generation does not have goals. We're not goal oriented. We just want to know what is going on. Not going on, but perhaps going out." The pursuit of the fleetings, fragmentary and the untenable has resulted in one dimensional milieu, where most of us are reduced to playing the role of part-man or, worse, non-man.

In such a climate of opinion, where the center cannot hold, because there is no center, everything conspires towards a philosophy of meaningless, boredom and absurd. Nobody associates a life of values with the university system. The student community is faced with a set of fundamental questions about the meaning and aim of life, power and authority, love and sexuality in human relationships, the relevance of family institution to the contemporary life style and the intelligent use of increased knowledge and are looking forward towards their satisfactory solutions. The need of the stability of their cultural heritage and ethical and spiritual values for their socio-psychological adjustment is all the more greater than ever before.

III

There is a fair consensus amongst educational thinkers and practitioners that the body of knowledge taught currently in the institutions of higher learning is not effectively and efficiently organized to fulfil the emergent needs of the present and foreseeable future. What adds to our irony is that instead of unfolding the possibilities of the individual evolutionary, it tends to create fragmentation of life. It does not acknowledge the fundamental fact that all life is unity, mutuality and harmony. The problems of life are neither disciplinary nor interdisciplinary but they go beyond the kingdom of values, which a Buddha, Christ, Mohammad, Tagore, Kabir and Swami Vivekananda were able to actualize. The existing educational curriculum does not train our sensitivity, organization of our emotions and insights and understanding but only makes us an expert in the manipulation of material things. It can easily manipulate economic, technological and scientific approaches. But the questions concerning intuitive awareness, immediate experience and ethical values have been found to be beyond the grasp of fragmented disciplines of knowledge. How can education build bridges between art and science, between the objectively observed facts and immediate experience, between morals and scientific appraisals for the recovery of sanity and personal growth and a more integrated contact when the whole self is a problem of problems?

Indeed, the discipline-bound pedantic system closes our mind to the new areas of human awareness. It does not encourage divergent and holistic thinking, creativity and innovative spirit required to find appropriate approach to meet the threats and demands of the future. On the contrary, what we find is that Pavlovian techniques of stimulus-response are effectively applied in the teaching-learning process. These techniques find their latest expressions in behavioural objectives which tend to stifle the individual creativity, initiative and flexibility. It is easy to apply these objectives to the quantitative areas of smallest units but it is enormously difficult to deal with the problems of self-concept, human attitudes, feelings, beliefs, meaning and intuition.

Another major implication of this highly specialized knowledge is that it has brought the human species to the verge of self-destruction and it has become now an open question as to whether or not man is going to be able to survive his own technological ingenuity. Say, for example, there are enough indications of a large scale manipulation. Artificial insemination, and test-tube babies are not any longer mythical figures of Huxley's Brave New World. Once the DNA code is deciphered, genetic material is sure to be used at will. Scientists are engaged in discovering the chemical composition and structural configuration of matter that are the physical enabling conditions for bringing matter to life and for awakening living organism to consciousness. If the worth of a society depends on the quality of person it produces, it would seem we are poised for the mass manufacture of faceless and fractured non-persons.

With the development of transplant surgery, the problem of identity will take a new turn and man may even cease to exist. Supposing brains and hearts and even memory can be grafted or replaced: the old embarrassing questions: Who are you? loses its raison d'etre. We shall have millions of manipulandum, not men. Already advertisements, drugs, propaganda and brainwashing have spread their nets far and wide and influence the minds of men in ways no ancient tyrant could dream of.

IV

In such a computerized and atomized educational milieu, both the inputs and outputs of the education system are bound to experience a total alienation from the academic and social environment. This is precisely what is happening. The most deadly of all sins, the psycho-analyst, Erik Erikson suggests has been the mutilation of child's spirit. The mutilation is visible everywhere - mutilation of the spontaneous joy in learning, pleasure in creating and the sense of self. Partly, this mutilation could be located in the sheer absence of the significance of imaginative insight, intuitive awareness, the capacity for affection, love and understanding in the current education curricula and content of courses.

Perhaps, it is again due to the absence of these intangible areas that our student-body remains unimaginative, insensitive, lacks coherence of mind and find it difficult to develop in itself the moral and aesthetic awareness. We need both intellect and lively affection, both the capacity to analyze and the capacity to feel, if we are to find answers that have lasting meaning. Thinking alone does not make a human being. Facts and logic are sacred, but there are more things in heaven and earth than facts and logic. The capacity of the individual for inward experiencing, sense of belonging and sharpening of the will, attitudes and continuing flow of vitality are equally important for an integrated growth of man and social organism. The inward life is a life of imagining and feeling and upon its health and vigor depend the quality of living and convictions. If the enormity of imbalance and sickness is to be avoided, we must strike out for an integral creative humanism in which the outer and the inner life find their equal balance. Here is an insight from W. B. Yeats:

> God guards me from those thoughts men think
> In the mind alone;
> He that sings a lasting song
> Think in a marrow bone.

Implicit in this is the general assumption that the content of courses of all disciplines: humanities, social sciences, natural and physical sciences to a great extent are under the dominance of three prophets: Darwin, Freud and Marx. These prophets take us through the portrait gallery of the animal, the machine, the nihilistic, the absurd and the collective self. But perhaps, they reflect their inability and unwillingness to look forward to the emergence of a luminous self, a holistic value system with ontology and metaphysical disciplines to guide our ways; beyond the faded, fractured and frustrated image of man. Say, for example, if we continue to teach that the human being is nothing but the evolution, that mutation played upon by natural selection for a sufficient length of time account adequately for the differentiation of life into diverse species and for the success of some species in surviving and for the failure of others. This process does not leave any scope of deliberate choice on the part of human species and tends to promote an image of man based on ruthless competition. Contrary to this assumption, there is another image of man revolving around the concept that the essence of being human is an awareness of spiritual presence behind the phenomena, and it is as a soul, not as a psychosomatic, that a human being is in communion with this spiritual presence or is even identical with it in the experience of mystics. This myth has illuminated human life throughout the millenia and across many cultures. It is based on the assumption that "human life is sharing integrally in a greater order of evolution process, that is as an aspect; as well as an agent of universal." This myth unfolds the hope associated with life, with being embedded in purpose and meaning transcending ourselves and the lives of our transitory systems. This image of man is based on self-realization and ecological ethics and need to be structured in our educational curricula and content of courses.

Another major implication of the educational system is that it has encouraged increasingly sensate, and manipulative life. No wonder, primarily it has been structured on the promises that man has only bodily, mental and vital needs and he lives within the limits of his circumscribed individuality without any psychological or inner compulsions.

The paradox remains: while educational thinkers and practitioners have been speaking throughout the ages on the top of their voices about educational objectives in terms of the individual evolutionary growth, development of a coherent picture of the universe and an integrated vision, a samanavaya of the different items of knowledge, but at the operational level the system is tending towards the process of the biological, psychological and sociological engineering.

Alarmed by these symptoms and forces which are currently operating aimlessly yet compulsively, some of the dissidents but, however, perceptive thinkers, have begun to voice their loss of faith in the operational viability of the educational system. The debunkers of the schooling myths are: Ivan Illich, Paul Goodman, John Holt, Daniel Bell, Aldous Huxley, Arthur Koestler, Tagore and Sri Aurobindo. They are firmly convinced that educational institutions instead of enlarging our areas of awareness and cleansing our doors of perceptions have, in fact, polluted our consciousness. Is pollution of consciousness not fraught with more dangerous implications than the pollution of human environment? How to liberate the individual consciousness from various kinds of bondages and tyrannies to enable him to develop an integrated personality; and learn to live in harmony with laws of nature, with the self and laws of historical or evolutionary growth is the task which the education has to address itself? Let us not forget that man is a sort of an evolving creature and he is more a promise than an achievement.

If the existing components of pedagogical learning are not in tune with evolutionary needs of the individual it would be sheer abdication of our responsibility to blame the learning processes as such, instead of identifying a set of new indicators of educational system for preserving, enhancing and creating a new quality of life and psychologically healthy environment.

This naturally tends to drive us to know what we want and how to become what we want. And the person includes an appropriate environment and certain interlocking social, political, economic, technological and cultural institutions. What are the possibilities and alternatives before us in shaping and designing new life styles and a harmonious human race?

V

Fortunately, there is nothing final about the educational crisis and the impending doom of human race. If there are killers of freedom, there are also the champions of choice, rather hopeful voices. We have another way of looking at the crisis, a larger and more inward view. We have thinkers like Teilhard do Chardin, Arthur Koestler, Lewis Mumford, Julian Huxley, Lecomte du Nouy, Tagore and Sri Aurobindo who are speaking of a new direction in evolutionary process, had no vision to see and care to listen to them.

It is fascinating to note that the entire body of literature on education handed on to us from the ancient time to the present day describes education in terms of evolutionary growth of the individual, development of the total individual potentialities: biological, ethical, intellectual and spiritual. This will become apparent if we briefly look at the goals and objectives of education. Howard Bowan says that "instruction--both in and out of the classroom--should be directed towards the growth of the whole person through the cultivation not only of the intellect and practical competence but also of the affective dispositions including the moral, religious, emotional, social and aesthetic aspects of personality." Plato quotes Socrates as saying, "And we shall begin by educating the mind and character, shall we not?" In our time Nevitt Sanford writes: "Our goal is to expand both the intellect and the areas of emotive and feeling and to bring together in a larger whole." Kenneth Keniston states: "The critical components of education attempts to expose students to multiple and conflicting perspectives on themselves and their society in order to test and challenge their previously unexamined assumptions. It strives to create conditions that stimulate students' intellectual, moral and emotional growth, so that they may ground their skills in more mature and human framework of values." Faure states: "The physical, intellectual, emotional and ethical integration of the individual into a complete man is a broad definition of the fundamental aim for education." According to Bertrand Russell, the aim of education is to develop minds sensitive enough to perceive, to feel the shock of tragedies taking place thousands of miles away and communicate a feeling to the heart. Tagore writes that the highest mission of education is the realization of an inner quality of man, a realization that places human life in harmony with all existence. Aldous Huxley expects from education to build bridges between art and science, between man and nature and between objectively observed facts and immediate experiences. Both Teilhard de Chardin and Sri Aurobindo believe that education should facilitate the process of evolutionary breakthrough of consciousness, the noosphere and the supermind respectively. Sri Aurobino's education of yoga with evolution opens up a new horizon.

What is needed is a radical change of the whole basis of our life and consciousness, motive and method, a yet untried balance between the past and the present, to analyze in depth the evolution of human consciousness but the point which I intend to make is that the present fluid situation is the result of our inability to achieve a balanced development between unique scientific and technological breakthrough and the growth of human consciousness. In such a situation, can education correct this imbalance by enlarging our areas of awareness and opening the new potentialities of our minds?

We are at the crucial point in the human history and cannot afford to be bogged down in an endless controversy of specialized educational curricula versus liberal curricula, general education versus vocational education and modern education versus ancient one, but what is needed is of building bridges between various kinds of fragmentations and division. Not only should we probe our educational curricula in depth but look forward to an alternative integrated curricula with a sense of greater urgency. We must begin to think about a world where basic human values are widely recognized and where the future is more than merely indulgence in selfish pursuits and fleeting pleasures. Man, values and cosmos, our life style depends on a balancing of the three. To be precise, the source of our widest and most abiding motives centers in the cosmic man, transcendent values and the unlimited community. Here is the dynamics of the inner man and the new society. Here, as Plato would say, is the vision of the city laid up in heaven, the pattern for him who wills to see, and seeing, to found a city in himself. The soul is a society. Is there any ground for this faith in the future? Somehow, we must activate the pattern--making function of the mind, the pattern hidden in the heart of every man, as in the most ancient traditions, especially Upanishadic and tantric Buddhism.

It is striking to note that recent researches have unfolded enormous possibilities of the evolutionary growth of human mind that lie ahead. In human or psycho-social evolution man is an unfinished, an intermediary creature and must be surpassed and completed. Perhaps, no one knows about the total potentiality of human mind and our awareness of human nature (including the natures of human systems) is selective, shaped by our symbolic and pre-symbolic images. True, man is the product of millions of years of evolution; from the first unicellular organism, evolution has produced a race that has been able to put a few of its members on the moon. Spectacular though this development has been, there is no valid reason to assume that human consciousness is the final process of evolution. Indeed, a strong case can be presented on the basis of a variety of writings to show that there is a distinct possibility of a new leap in evolutionary consciousness.

One even perceives a new trend toward the convergence between the perennial philosophy and recent researches in biology, pedagogy and psychology, if not social reconstruction. It is perhaps, no exaggeration when E. F. Schumacher (1977) says: "The modern experiment to live without religion has failed (italics his) and once we have understood this we know what our best modern tasks really are." A. N. Whitehead said some years ago "that the future of civilization depends on the degrees to which we can balance the forces of science and religion." Einstein, Bohr, Schoredinger, Heisenberg, Wigner and Wald are also looking forward to the *saynyoga* (harmony) of both atom and self, which are equally real and equally true. Schroodinger says: "I consider science an integrating part of our endeavour to answer the one great philosophical question which embraces all others, the one that Plotinus expressed by his belief: Who are we? And more than that; I consider this one of the tasks, but the task of science, the only one that really counts." In other words, the ultimate goal of science and of all moral and spiritual endeavour is the same. "Who am I?" is what Nachiketas asks in the Katha Upanishad. The question, who am I? is on the close analysis, no different from the question, what is the abode of truth? Does truth reside in space and time or is it outside both space and time? It is not for us to speculate on the nature of this convergence, and integration; but perhaps the hope of mankind lies in this direction. Our loyalty to this emerging idea will be the measure of our responsibility to the race and reality; that will determine the fate of mankind and the curve of culture. There may be a new definition of man, reality and consciousness, some unachieved unified field lies before the dreamer, the enquirer, the lover of mankind. It is both a challenge and a promise to education, a challenge is to find ways to keep the promise.

Its revolution by consciousness is the model for tomorrow, perhaps the time has come to reaffirm and to recommit to the concept of an integral education and to common core curriculum. If man has to grow towards the future, then the focus of educational curriculum would have to be on the attainment of creative, evolutionary, planetary, and environmental philosophy. In many ways, it will have to be open-ended, multi-faceted, experimental and innovative. Cutting across the extreme specialization and artifical barriers which divide humanity into races, religions and sexes, the new educational system will strive to create a climate of opinion in favor of only one earth, one planet, one globe and one world to curb the arms race, to improve the human environment, to defuse the population explosion and to supply the required momentum to developmental efforts. While taking an adequate care of preserving and enhancing cultural pluralities and identities, the new educational system will be directed towards the realization of the goal of planetary consciousness. Let us not reject the hope as an impossibility.

Before this can be attempted, there has to be change in our educational methodology, teaching-learning process and the setting and structure that surround and often support. It should not be overlooked that the teaching process is inextricably linked up with the curriculum development. It is either explicitly or implicitly determined and shaped through the teacher's behavior in the classroom as well as by the material that his student reads.

Before dealing with the problem of curriculum development, it would be appropriate to look at briefly the crucial issue of the teaching-learning process. There is something which is most important beyond the facts of knowledge, inner-relationship or love affairs between teachers and students. Teaching is a creative art, it should be what Koestler would call a bio-sociation, a bringing together of the formally unconnected, thus forming a wholeness.

It is only when the teacher becomes a creative person, he enters into true friendship with a learner without presenting any facade. A bond of love is established between the teacher and the learners and he starts appreciating their feelings and privacy and helps them in the process of their self-actualization. In this process of mutual trust and confidence, the teacher is unfolding his own personal self and also helping the learners in their voyage to self-discovery.

Very little is known about the modes of learning and whatever little is known about it, opinions are sharply divided, pendulum swinging from one extreme to another. Time and space do not permit us to examine modes of learning in detail. However, the major questions before us are: How to improve the teacher's attitudes and beliefs to the teaching-learning activity? How to introduce elements of authenticity and integrality in the teaching-learning environment for the actualization of maximum potentialities of students? How to produce holy, healthy and happy individuals? How to create an education milieu in which the teacher and student feel more integrated and less split, more open to experience and perceptual awareness, fully functioning, more creative and ego-transcending and independent of their lower needs. When I speak of authenticity, I'm thinking of uniqueness, that is the experience of becoming a more autonomous, more confident person. It is the experience of learning to be. Nelson Foote and Leonard Cottrel use the term inter-personal competence while referring to the idea of authenticity. Abraham Maslow, a humanist psychologist conceives of authenticity, or self-actualization as the inner-potential of all people.

Let us not go into these questions at the moment, but the point which I intend to make is that very few people, both on the eastern and the western scene know, that our ancient and modern seers and thinkers have had a clear perception of the quality and kind of education needed for the actualization of latent human potentialities. Dimly or clearly, they could foresee the possibility of an open-ended evolution, in which man could participate in making himself. If this ideal is not a utopian then we must state in categorical terms the core curriculum needed for the attainment of an ideal education. While identifying new components and viable units of new educational systems, we must take into account the relationship between nature and nuture. If we start with this problem and make it central, we can bring together information from a large number of isolated disciplines. It is only by developing an attitude of love in the individual towards nature that we can unveil the basic fact that living organism exists in balance. As Huxley puts it: "We need the aesthetic, an organized sensibility which will polarize our feelings and thoughts in an artistic way towards the world. Here is an insight from Wordsworth:

> One impulse from a vernal wood
> May teach you more of a man
> of moral evil and of good
> Than all the sages can

And he speaks in "The Excursion" of being

> Rapt into still communication that transcends
> The imperfect offices of prayer and praise.

Wordsworth felt strongly about the spiritual relationship of man and nature. He was convinced that in nature, man could discover his spontaneity and an immediate unsophisticated experience of life.

The core curriculum must contain sufficient learning material to awaken our love, understanding and curiosity about the natural pheomena. To counteract the forces of dehumanization and mental illnesses like neuroses produced by our fragmented and highly specialized knowledge, we must structure in our courses the ancient education practices like Yogic dhyanas and mental disciplines for sharpening our intuitive awareness. For this we have to begin at the beginning. The choice of the self, the self as freedom, is man's hardest and ultimate choice. The business of being aware of everything within and without has been explicitly stated in Buddhists texts, Upanishadic writings and Zen psychology. There is a text, for example, which is introduced by a dialogue between Shiva, the great God, and his wife, Parvati, Parvati asks Shiva the secret of his profound consciousness of Tat-Tavam-Asi, of Though Art that, the consciousness that the Atman is identical with the Brahman. Shiva proceeds to give her a list of 118 exercises in awareness which he says are all extremely helpful toward achieving this ultimate consciousness. They are excercises in awareness in every life situation, from dating one's dinner to sneezing, from going to sleep, to making love, to having dreams and to day dreaming.

Another identifiable major component of educational curriculum could deal with the training of perceptions. Those people whose perceptions are trained, experience love and joy and know the meaning and purpose of life. Following a phrase of Blake's, "The doors of perception were cleansed, everything would be seen as it is infinite." If through proper training in perceptions, we could cleanse the doors of our perceptions, we could certinaly look forward to a kingdom of values, a new heaven and a new earth, where the matter shall be the spirits willing bride. It is not distorting history to say that, coming from entirely different backgrounds, yet united in aim and effort, march an army of souls; in our midst are morning of the future, new planetary culture. "There is in the world today", Kenneth Boulding has written, "an invisible college, people in many different countries and many different cultures, determined to devote their lives to contributing towards its successful fulfilment. Membership in this college is consistent with many different philosophical, religious and political positions." Auroville is another experiment in an international living where the entire focus of education is on the awakening of consciousness in the individual. This need not be assumed as an acceptance of past in totality. We have to evaluate our past critically and creatively in our onward march. But we have to remember that history is not a bunk, but has a meaning. Can we think of harnessing our perennial values, symbols, myths, and images--which have decisively also been efficiently and effectively used by our political and cultural leaders during the freedom movement for the cultural resurgence of the country. The time has come to arrest the free flow of parasite class in our society and consumer ethics. A new philosophy for man is needed to be structured for containing the accumulating forces of scarcity and building a moral elite at the top. A new holism, a conserver ethic and a moral responsibility has to be developed in the individual lifestyles and the institutional framework.

Granted that we may not have any ready-made prescription or answer to this complex issue but certainly we should not abandon our quest for alternatives. Can we think of exploring the possibility of identifying viable educational units and components drawn from philosophy, comparative religions, the arts and literature: novel, poetry, drama, painting and films, history of civilizations, pedagogy and social sciences, which could be appropriately embedded or integrated in our depersonalized curricula and content of courses. Hopefully, this approach will foster divergent and holistic thinking, creativity and innovative spirit, new sensitivity to environmental and cultural conditions and intuitive awarenss among the student community.

Can there be anything more beautiful and necessary than the remaking of man and society? As Wagner has pointed out, civilization itself is obsolete, and humanity is ready for apotheosis. It is our date with destiny, to be civilized beyond civilization.

And if that is all meaningless, I want to be cured
Of a craving for something I cannot find
And of the shame of never finding it.

NEED FOR DEVELOPING HUMANISTIC VALUES IN TEACHING AND LEARNING ENVIRONMENT - WHAT THE CURRICULUM CAN CONTRIBUTE

M. GOPALAKRISHNAN, I.A.S.
FORMER SECRETARY TO THE DEPARTMENT OF EDUCATION
GOVERNMENT OF ANDHRA PRADESH
INDIA

There is a well-supported viewpoint that Morality is merely the term for describing a good way of gregarious living in human society. In this sense, it is part of eternal human values that have been growing as a cohesive force of human civilization itself. Children copy adults' behavior to a great extent and, for that matter, adults themselves copy from other adults the good traits as well as the bad ones. The adoption of the bad traits leads to a piercing of the tight circle of conformity to the authoritarian code of Society and State. This defiance is described in Christian religion as an antichristian attitude. Indeed in Biblical lore an eternal battle is raging on between the good and the evil. Sometimes evil conquers (temporarily) but ultimately the good in Man triumphs.

Beginning with all primitive tribes and later, in all civilization and religions, this confrontation has been constant and intense. Often, this has been due to the conflict of the individual with the social good. Much has been written on this by political philosophers of earlier times like Plato and

Aristotle, in Medieval times by Hobbes, Locke and Rousseau and later by Hegal and in the last century Karl Marx et al.

While Evil is irrational and unjust, good conduct is rational and just. Plato declared that "Virtue is knowledge," that is to say, that the very adoption of a virtuous attitude to life seems to become an acquisition of knowledge, an instantaneous transformation of the mind itself.

Morality and Human Values as Taught in Religions:

In the prayer books of many world religions there are established invocations that bespeak of human values which are being passed on to the young as well as the old, particularly to students through learning situations. The Hindu prayers talk of the eternal request of Man to be led from Untruth to Truth, from Darkness to Light and from Death to Immortality. The deliverance sought for is from impermanent to permanent values. In fact, in a number of schools the children recite (often, getting by rote) all these in sanskrit verses as well as verses in the different languages of India.

Then there is the teaching to the human mind about the submission of the self to the Lord as the mother, the father, the relative, the bossom friend, the wisdom and wealth of the human mind itself. The Teacher is the Lord, indeed the Pantheon of all Lords and must be held in high esteem.

To cap it all, the highest humanistic values that are taught to one and all in Hinduism can be epitomized as follows:

May the Lord protect us both

May He nourish us both

May we work together with great vigor;
(divine strength)

May we acquire the brilliance of intellect through our studies.

May we not hate each other.

Let there be peace and peace and peace

In fact, the vedic ideals proclaimed through prayers include Love and brotherhood, mutual understanding and peace and harmony. The invocation runs thus:

May all be happy

May all be healthy (free from disease)

May all see auspicious things.

May non suffer.

In the Zereastrian Prayers one comes across a similar rendering of thoughts:

Righteousness is the highest virtue.

That alone is happinesss;

Happiness is to him,

who is righteious for the sake of the highest Righteousness.

The Zereastrian prays to the Sovereign Mind of the Supreme Lord to give him truth which is the ideal of all ideals for his guidance.

In the anthems of Worship of the Hebrews, it is said:

Though I walk through the valley of the
of the shadow of death, I will fear no evil;
For thou art with me;
Thy rod and thy staff, they comfort me.

This fair in the Lord is a universal beacon in all religions that, when taken seriously, will keep a man from doing harm to others, and unto himself. Surely, goodness and mercy shall follow such a one in all the days of his life.

In the Jain prayers the good men of the world, namely, the sages and the teachers are hailed along all the great ones of the past, the present and even of the future. They exert upon all to cultivate the constant company of great men, the acquisition of knowledge and they praise good character in all men; for surely, this is the path of the righteous who are bent upon realization of themselves.

The Buddist prays for total refuge in the Budha, in the Dharma and in the Sangha, not once or twice, but thrice. Such a Worship is sublime to one following Budhism. There is no other refuge for him and weal always shall abound in such a one.

The Ten Commandments of Christianity are too well known to be detailed here. They constitute also the highest form of Humanism. The Sermon on the Mount, Christ's assurance and St. Francis's prayer all tell us to forgive. To err is human but to forgive is Divine.

In Islam, too, the devotee asks for being shown the straight path. All other ways invite the wrath of God, the most merciful.

Thus we can move from Religion to Religion and see a universal state of acceptance of the good and condemnation of the bad; but there is forgiveness, too.

These are no doubt religious percepts and one can argue that all may not have the chance, the inclination or even a desire to come by humanistic values via that read. But almost all of us are exposed from our childhood to religious practices either as close observers (or even from a distance) or as participants (sometimes unwillingly). Often, those whom we respect, admire, or love are watched by us in the act of religious chanting, worship and ceremonial obeisance. In the school of Life itself we are in a sense indoctrinated by such experiences. Our conscience is thus influenced directly and indirectly by a force the like of which the world has not seen before and will, perhaps, not see again.

Habits as Developed and Acquired in Schools and Childhood

As human beings grow, some of them pass through the stages of formal schooling where many more values are bequeathed to us by our teachers, elders and even cohorts. They develop an ability to recognize and approve, to disagree and reject and to appreciate and sympathize (when they are forced to watch helplessly some of their cherised values being mercilessly trodden under the heal of the villainous). They recognize the qualities of gratitude and resentment. Approbation of a virtue is a nicety which they set apart from the mere appreciation of a nice building or a lovely piece of art. They become judges as well in this process after being endowed with skills, some of which are inborn and drawn out, while others are taught to them. They desire and come to know of propriety and etiquette and enjoy the sensation that the harmony of sentiment gives them. They get a boost to their feelings to situations where a remark or an act of behavior invites them and their fellow beings to react in a certain way. They begin soon to crave the company of like-minded people (was this the original impulse that brought them all together?) They share the joys and sorrows of such company. They live and relive such scenes of common happiness and glory, of even envy and misery. All through such experiences, the feelings of sensibility and self-command (acknowledged as great virtues) surfaces often and give them contentment and a sense of well-being.

In the initial stages of a child's growth, physical as well as mental, there is great need for society to contrive and set up formalized institutions where for a greater part of its daily existence, instruction takes place in all such matters.

In a parallel course, instruction will be taking place in the school of life itself.

"A very young child has no self-command, but whatever are its emotions, whether fear, or grief, or anger, it endeavors always, by the violence of its outcries, to alarm, as much as it can to get the attention of its nurse, or of its parents......"[1] The child is probably making imaginative leaps, all the time, in regarding its own behaviour through the eyes of others.

While he was on his death bed, Sir Walter Scott is reported to have told his son-in-law, "Be a good man, my dear."

Ultimately, what each and every human being should do is to leave the world better than he finds it. This is all the more necessary because, as Aristotle put it, "Man is a social animal." It was Immanual KANT who declared that Man has a dual nature and while he cannot be sociable with fellow humans, he cannot live without them at all!

A Socratise Dissatisfied or a Pig Satisfied?

In the past few decades, the intellectuals of the world have been expressing grave concern at the gloomy propsects of the sate of food production and of the dwindling resources on this "Spaceship Earth" when the third millennium after Christ will dawn. The unequal race between food production and population (which Thomas Malthus over a century ago prophesied will end against the former and in favor of the latter) will not be helped even by technological inventions, according to these Neo-Malthuseans, but none of them has thought of the dwindling state of morals in man or of the deteriorating human values in today's world.

Moral Behavior and Society's Reactions

The Fascists and the Nazis supported the organic theory of society viz., that man has no place in society except as a cell in an organism or as a cog in a machine. Be that as it may, Life is for living well and every human being has a right to live happily and his efforts at happiness should not cause undue misery to others. Are human beings of this age becoming more tolerant of the falling standards of morality and dethronement of

Humanism? As Morris Ginberg, the well-known sociologist puts it, "There are three types of development in our standards of morality - first, morality was mixed with other forms of social control such as Law and Religion. Today, a distinctly moral attitude has merged from these forms and we judge every issue on purely moral grounds. In early times men were governed by prejudices, irrational and blind fears, traditions, taboos and inhibitions. But today, we are becoming more liberal and sympathetic and this clouds our strict sense of morality and ethics."

Even without Society's quick Suo Moto disapprobation, things sometimes do happen by individual efforts. In the Hague, a Dutch girl, whose boyfried left her when she became pregnant, took revenge on him in a novel way. She put in an ad as follows: "Martha Onwenand[2] announces the birth of a daughter from John Sakkur, son of James and W. Sakkur Guyet, all three of whom want nothing to do with their daughter and granddaughter." The wayward boyfriend was persuaded (perhaps compelled) by the parents to propose to the abandoned girl who had the last laugh. She rejected him stating that he was too late. This is probably one of the few instances when society woke up and did something to right a wrong done to a human being.

Writing in 1974 on American Higher Education, an American Professor wrote:[3]

"The two most discouraging documents of our time are the Pentagon Papers and the transcripts of the White House tapes. One would like to toss them into the trash with other bad novels.

Such things cannot be real. but they are real. This is the record of college men at work. This is decision-making at the top. The law has become a school of chicanery. Cheating, apparently cultivated in collee and may be learned there, is perfected by daily practice. Skillful lying is a virtue, especially when used on a great scale. Government is a field for more gamesmanship. An advanced degree from a graduate school turns out to be a certificate of blindness. Higher education has taught no values. Nothing has been learned but the vulgarity of price.

Elsewhere in the same article he wrote:

"Unless education can combine its methods to produce a new type of mind, at once investigatve, truthful, and responsible, it will fail. Failure is unthinkable, for if education fails, so does the society on which it is built, the very world itself. But the vanity of the diversity of our learning is such that failure stares us in the face."

"Virtue is seldom demanded, never expected. If we, the members of the human race, who are also inmates of our respective tradition-bound societies have a taste for deterioration of values, it will affect the quality of our existence. It will be unseen and unfelt at first. But the erosion will begin. It may take a few years, or decades, or even one or two centuries. Ultimately it will become a flood and wash away our values. Should we not teach them to our teachers and they in turn to our youngsters." Echoing the sames ideas, Ms. Dana L. Farnsworth wrote:

"The value of customs, and symbols associated with religion, marriages, patriotism, family pride and cultural identification has been seriously eroded and...frequently ridiculed or disregarded."[4]

Our educational and scholastic institutions provide the necessary groups including the elites to pursue the goals of our respective societies, to maintain their mores and to fulfil our expectations of a contented and just living. The modern University in particular is "*Perhaps the most sensitive and critical instrument of contemporary life*."[5] More generally speaking, the educational institutions control opportunity and are not mere stages of adjustments of man to his environment to meet which he acquires knowledge, attitudes and skills.

It is no longer enough to have mere faith in exemplary conduct and action as tools for a human being saving himself and his race. I believe that men must become more courageous, competent and aggressive in order to beat down all opposition and overcome the obstacles which selfishness, greed and predatoriness are perennially putting up in his path.

These in final analysis, I believe are not mere utopian ideas.

The Concept of Law and Society

However, one cannot entirely condemn either the State or Society itself for its inaction, nor, for that matter the laws of it. No mattter what the letter of law says, it is of general application. It is the judge and his sense of justice that give law its meaning. There are always differences. All cases are not black and white--there are many shades of gray.

Men have not arrived at these principles quickly. Within the covers of Blackstone and of all books that deal with the laws of men, there is a little of Hummarabi, a little of Moses, memories of the Greeks and Romans, of Plato and Aristotle, of the Magnacarta and of the Civil Wars and revolutions of Britain, U.S.A., France and Russia, of Karl Marx and others like him--each has contributed something to its growth as the reflector of human values.

The Law is no doubt a maze of many turnings, justice is the one true path through all that maze. No man can himself be Law or Justice.

I believe that the catharsis of the pentup emotions of millions of good-minded people has to lead up to something beneficial to mankind. Steps for preserving their faith in the systems that men have made should be taken for whatever use the current as well as future generations make of it.

Some of the greatest thoughts on human values ever to come out of a human mind were made at the Gettysburg Speech of Abraham Lincoln. ".....with malice towards none; with charity for all; with firmness in the right, as God gives us to the right, let us strive to finish the work we are in, to bind up the nation's wounds, to care for him who shall have borne the battle, and for his widow and orphan, to all which may achieve and cherish a just and lasting peace, among ourselves and with all Nations."

It is indeed very difficult to explain the mystery that is Man. Man is the center of all things, so did the Greeks hold forth. To some philosophers, he is the center of the universe, "an evolutionary being right from the stage of amoeba to the present status of mammal."[6]

Unless the authorities take control of the destinies of youngsters in the schools, colleges and universities the political leadership of any country will be accused of being vulnerable (as happened in the U.S.A. in the middle sixties and a few years later in France.[7] Just as in Economics there is a concept of progress measured in terms of GDP we can also conceptualize the "morally growing society" and (where it does not so grow call it) the "no growth society."

It is my view that we have sufficiently drawn upon the assets of our society, particularly the "better half of men viz., the women. The education of women in many societies is at best a slowly-dragging affair extending over decades.

In the sixties of this century enough evidence was produced to show that in the English-speaking parts of the globe the women students did not find fulfilment and satsifaction in the traditional curricula of educational institutions. In a major part of the World (China, India, etc.) the curriculum still contains, particularly the primary and secondary school stages, lessons which depict as desirable values in women (a) submission to the husband, (b) maintenance of a lower profile than man's (c) confining onesself to the hearth and home and doing household chores; (d) raising of the children, caring for them and ministering to the wants of the lord and master of the house!

Human values being taught in the schools all over the world have always reflected in a large measure those in the society itself. Even on a higher (philosophical) plane, the early American experience (in the 19th century) in women's education was expressed by the question as to whether the acquisition of knowledge by women on par with men was per se a good thing or, was there a role for women in using this knowledge to transmit to the young as in the case of Man? In fact, these questions have validity even today.

It cannot be disputed at all that the crucial step which all educational planners must take is to make the educational institutions properly equipped in order to impart desirable human values. This is recognized as the highest priority in view of "a lack of intellectual conviction, ideals and attitudes on the part of teacher-education institutes towards the preparation of teachers. Some instructors limit their role only to lecturing. Instructors who are aware of their roles need the recognition and support of the administratvie bodies."[8] Further, the majority of graduates of teacher-education institutes fail to develop healthy attitudes and ideals towards the teaching and lack the will to apply what they have learned for the benefit of the pupils."[9]

Human values include those that reflect:

(a) Model inter-personal relationships such as friendship (even to the point of the Syndreme of Damon and Pytheus of Syracuse!) among humans stretching across religious and community barriers;

(b) model behavior towards a community or religious groups;

(c) model friendship with the animal kingdom (for e.g. Androcless and the Lion)

(d) Loyalty to the Nation and the State

In India the Ten basic duties of the citizens were reiterated as indicated below. Could not these become part of repetitive teaching from class I upwards?

1) Respect the constitution, the National flag and the National anthem;

2) Cherish the noble ideals of the freedom struggle;

3) Uphold the protest the sovereignity, unity and integrity of India;

4) Defend the country and render national service when called;

5) Promote the common brotherhood of all the people of India and renounce the practice of derogatory acts affecting the dignity of women;

6) Preserve the rich heritage of the nation's composits culture;

7) Protect and improve the natural environments, including forests, lakes, rivers and wild life and have compassion for living creatures;

8) Develop scientific temper, humanism, and spirit of enquiry and reform;

9) Safeguard public property and abjure violence;

10) Strive for excellence in all individual and collective activity.

These are indeed objectives that ennoble our systems of Education, the Society, the Nation and finally the State itself.

In the Indian context, the teaching of social, moral and spiritual values in Education has had a chequered career since the beginning of the 19th Century, that is, during the East India Company rule and also later under the control of direct British rule (after 1857 AD). As far back as 1815, Lord Moria observed:[10]

"The humble valuable class of village school masters claims the first place in this discussion. These men teach the first rudiments of reading, writing and arithmetic for a trifling stipend which is within the reach of any man's means and the instruction which they are capable of imparting suffices for the village shopkeeper. In general, the sad effect of this education is that the inculcation of moral principles forms no part of it. The remedy for this is to furnish the village school masters with little manuals of religious sentiments and ethic maxims conveyed in such a shape as may be attractive to the scholars, taking care that while awe and adoration of the supreme Being are earnestly instilled, no jealousy be excited by pointing out any particular creed."

Swami Vivekandanda, a celebrated monk of INDIA stated towards the end of the 19th Century that any education is useless unless it is a "Man-making education." His utterances were born out of his constant tutelage at the feet of his master, the Sage Ramakrishna of Bengal who declared, "as long as I live so long do I learn." This is but a reiteration of the Yajur-Veda (the second of the Veda-quartette) which exherts Man to march on and march on (Caraiveti, Caraiveti!)

In fact, in the reports of both the University Education Commission (1948-49) and the secondary Education Commision (1952-53) chaired by Dr. S. Radhakrishna and Dr. A. L. Mudalier respectively, dealt with this subject which was treated subsequently also in different contexts by a number of committees which are:

(1) The Committee on Religious and moral instruction, 1959 (chaired by Sri Prakasa) appointed by the government of India. The committee defined a thing to be of "moral value" if it helped one "to behave properly towards others" and to be of "spiritual value" if it takes one out of one's self and inspired on to sacrifice for the good of others or for greater cause. This committee gave a framework of instruction on Moral and Spiritual values in the Elementary school stage and higher viz secondary stage. It referred briefly to:

(a) Morning singing sessions by student groups (Elementary stage)

(b) Narration of stories of lives of prophets, great men, religious leaders, etc. (Elementary stage)

(c) Display of audio-visual material (Elementary stage)

(d) Moral instruction (Elementary stage)

(e) Inculcation of character and good behavior through classroom (curricular) and extra curricular ways (Secondary stage)

(f) Morning assembly, with observance of two minutes silence and scripture readings (secondary stage)

(g) Essential teachings of World's great religions (Secondary stage)

(h) For one hour a week, the imparting of regular morning instruction (Secondary stage)

(i) Organized social services during holidays and outside classrooms as part of extra curricular activities (both stages).

In the University stage also, similar steps were recommended to be taken.

(2) The Committee on Emotional Integration, 1961; headed by Dr. s. Sampurnanand.

(3) The Education Commission (1964-66) headed by Dr. D. S. Kothari.

(4) The Committee of Members of Indian Parliament on National Policy of Education (1967).

Based on all these historical events, the National Council of Education Research and Training, New Delhi, INDIA prepared[11] (1975) the curriculum for the Ten Year School in INDIA. It emphasized the need for the awakening of social consciousness, and the inculcation of a sense of social justice among the students who will be the decision-makers of tomorrow. It suggested specific units of curriculum to develop among the students an understanding of democratic values which would finally be topped by a sense of National integration. The process of reformation in INDIA is on.

I have come to the end of this paper. But I feel that it is only the beginning.

REFERENCES

1. Smith, Adam, "The Morality of Sentiment", 1759.
2. The names are, of course, disguised.
3. Adams, Thomas Boylston, "One Wide River to Cross", DEADALUS Journal of the American Academy of Arts & Sceinces, Special issue entitled "American Higher Education Towards an Uncertain Future."
4. Farnsworth, Dana L., "Social Values in College and University." DEADALUS (Ibid).
5. Apter, David E., "An Epitah for Two Revolutions that Failed" DEADALUS (Ibid). (The emphasis, however, is mine).
6. Reddy, V. Marayan Karen, Man, Education, and Values, B.R. Publishing Corporation, Delhi, 1983.
7. For a brief but thought-provoking treatment of the subject as part of his reflections on the higher educational system itself, please see Charles Frankal (1) "What is the crisis in the Universities?" ACLS Newsletter, Vol. 25 No. (i) 1974 and (2) "Reflections on a worn-out Model." Deadalus, Journal for the American Academy of Arts and Sciences, Vol 1. Fall 1974, Richaread (Mass), U.S.A.
8. Continuing Education for Teacher Educators - 2nd service. A synthesis of six National workshops" p4. Report of Sub-Regional Workshop at Kaulalampur, 25th June to 2nd July 1979 published by UNESCO Reg. Off. Bangkok - 1980.
9. Ibid, no. 4
10. For a full description of the historical development of the subject please read the 56 page pamphlet published by the National Council of Educational Research and Training referred to elsewhere in this paper.
11. Report, Educational Reconstruction, Hindustani Talimi Sangh, Sevagram, WARDHA, 1956, quoted by Council of Educational Research and Training (NC&RT), NEW DELHI, INDIA, January 1979 "Documents on Social, Moral and Spiritual values in Education." Pg. 56. Ed. by Dr. B. R. Goyal.

VALUES MADE TANGIBLE: CULTURAL ARTIFACTS AND HUMANISTIC EDUCATION

Ted Bogacz
U. S. Naval Academy, Annapolis, Maryland

In this paper I will speak in limited and concrete terms of my experience as a teacher trying to instill an awareness of humanistic values into a technically-oriented curriculum. I will present a number of specific suggestions regarding a pedagogic tool, namely, the use of works of art (in the form of slides, recordings, and so on) which will help render past and present value systems more accessible and more vital to the student.

I am a historian teaching at the U.S. Naval Academy in Annapolis. It is an institution whose primary purpose is to train military officers and its academic stress lies in the sciences and in technology. Recently, the Academy has tried to enrich its curriculum by instilling into midshipman education a greater emphasis on humanistic values. For the last four years the History Department has offered a set of courses in the cultural history of Western Civilization which focuses on the moral significance and historical development of our inherited value system. It was in response to the Navy's concern for educating the "whole man" that in the Fall of 1983 the Academy required all entering freshmen to enroll in this two-semester course.

Not the least challenging aspect of this course is the chronology each of its semesters covers: in the first we treat traditional Western values beginning with the Greeks; in the second we discuss the breakdown and alteration of our inherited value system in Europe and America under the impress of the democratic and industrial revolutions. The unique and onerous requirement to teach twenty-three centuries of cultural history in the first semester has forced some of my colleagues and myself to make heavy use of cultural artifacts--most specifically, architecture, painting, sculpture, imaginative literature and music--to illustrate the past value systems which are the source of our own. In my own case I found that such artifacts more and more occupy not a peripheral but a central role in my courses. Indeed, it is my contention that the arts can and should be a continual focus of attention in a course on Western cultural values, not only because their concrete, often tactile qualities leave a lasting impression on the student but also because great works of art and architecture are often products of an entire society and thus illustrative of its values. In recalling Augustus's Altar of Peace or Louis XIV's Versailles the student will remember not only a work of art but also a whole set of associations which will provide a key to understanding the larger culture.[1]

I would like briefly to discuss several of the artifacts I haved used in my courses, particularly two of the most famous--the Parthenon and Chartres Cathedral. The Parthenon is known to every educated person. A thorough study of its place in Athenian society, however, will provide the student with more than a chapter in the history of architecture; it will present as well a key to understanding Athenian values. Some of the values integral to the Parthenon are obvious: proportion, balance, harmony, love of the ideal and the humanistic impulse are some of these. Under the direction of the sculptor Phideas, its two architects, Iktinos and Kalikrates, cunningly used mathematical ratios and tricks of perspective to create an ideal dwelling place for Athena. Yet this temple for a goddess is human size; its proportions reveal a world in which man is not dwarfed by the gods but is rather the measure of all things. The frieze within the temple representing the Panathenaic procession displays the Athenian emphasis on ideal physical beauty. Its pediments treating the central myths of Athens--the birth of Athena and her contest with Poseidon for Attica--reveal the Athenian preoccupation with reason and commerce. The metopes or high-relief sculptures above the doric pillars depict the struggle between the Lapiths and the centaurs; every Athenian must have read this as Athen's struggle against the Persians, as civilization against barbarism. Beyond these values are others: the Parthenon was both the product of the aristocratic impulse embodied in Pericles (for whom Phideas worked as a kind of minister of public works) and a direct expression of Athenian democracy: the design of the temple and every penny spent on it was overseen by a committee appointed by the demos or local ward. The Parthenon also presents a less appealing aspect of the Athenian character: their overweening pride and narrow parochialism. The Parthenon was built with monies stolen from the Delian League treasury which it was meant to house. Athens's cultural hubris in this instance is a premonition of the imperial impulse which would lead her to convert a defensive alliance into an empire; ironically, she would come to be identified by other city-states as an enemy to Greek freedom.[2]

If the Parthenon is a superb teaching tool with which to acquaint the beginning student with Athenian values and the rudiments of classical culture, the cathedral at Chartres is an equally rich resource for instructing him in the antithesis of the classical spirit, namely, the nature and values of medieval civilization. The student will first of all be struck by the cathedral's central position in the town, which reflects the Church's centrality in medieval life. The cathedral is also a symbol of the fundamental corporate nature of medieval society. Abbot Suger records that peasants and noblemen alike lent their backs to the task of dragging the great timbers for the church of St. Denis. Many of the superb stain glass windows of Chartres were donated by guilds of carters, butchers and wool merchants. In contrast to ancient Athens the individual in the Middle Ages achieved identity only through the overlapping communities to which he belonged.

The towering height of Chartres Cathedral will remind the student of the medieval view of man's insignificance before God's majesty. Its central purpose--to house the tunic of the Virgin Mary--depicts an important change in medieval religious values, namely, the shift from the eleventh century's emphasis on Christ's pitiless judgement of human frailty to the more prosperous twelfth century's emphasis on intermediaries such as Mary and the saints who will intercede for the sinner. Beyond this, Chartres illustrates another transformation of values, that is, from Bernard of Clairvaux's emphasis on man's depravity and the sinfulness of this world to Vincent of Beauvais's stress on the contemplation of earthly beauty as a means of leading man to the spiritual splendors of the next world.

The entire edifice of Chartres is testimony to a fundamental medieval value: that this world is but an allegory of the next. Every element of the cathedral from its mortar to its weathercock is emblemmatic of a higher spiritual reality. As has so often been said, the cathedral is an encyclopedia in stone and glass illustrating and summing up all revealed knowledge; it parallels the great encyclopediac works of theology of medieval scholars. In contrast to the Parthenon whose foundations lie in a rational, man-centered world, Chartres's rest on the pillars of faith, on a mythopoeic consciousness in which all things are possible through God.[3]

In the Parthenon and Chartres Cathedral are two multifaceted artifacts in which the student will find fundamentally opposed values resting at the core of our Western inheritance. Such striking and concrete embodiments of past values are likely to remain with the student long after his course in cultural history has ended.

The first semester of the Western values course taught at the Naval Academy is concerned with teaching the cultural history of traditional societies from the Greeks to the middle of the eighteenth century. The second semester treats the cultural crises and disjunctures in Europe and America which arose when traditional societies were overwhelmed by the drastic transformations stemming from the democratic and industrial revolutions at the end of the eighteenth and the beginning of the nineteenth centuries.

Here again art is a mirror of values, both of the disruption of old ones and the introduction of new ones. Together the French and Industrial revolutions, that is, the "dual revolution,"[4] destroyed the traditional system of aristocratic and ecclesiastical patronage which had sustained artists for centuries. The dual revolution also created a new audience of consumers--the middle classes--whose monetary and utilitarian values, in the eyes of many critics, tended to denigrate and even debase art and artists. Romanticism and the Romantic artist, whose myth hangs over us still, were the artistic responses to these shattering revolutions. What in the nineteenth century appears to be the abdication of the artist from a responsible role in society is intimately connected with the dissolution of one value system and the rise of another. It was not only the worker who, in Marxist terms, saw his labor transformed into a commodity by the Industrial Revolution, it was also the artist whose creations had become "reified." It was not only the proletarian who by definition was now insecure and rootless, that is, "alienated," it was also the artist, who, deprived of a personal patron and dependent on a new faceless mass audience, saw himself alone in the marketplace.

In the first decades of the nineteenth century, artists reacted to these disturbing new circumstances in a variety of ways: some succumbed to despair; others "prostituted" themselves (in their own eyes at least) to the new bourgeois values; others still saw in art a critique of a corrupted culture; they now glorified the artist as the conscience of society, indeed, as a kind of demi-god, who, in Shelley's words was "the unacknowledged legislator of mankind."[5]

The new age simultaneously alienated men from traditional society and promised the liberation of his creative energies, the breakdown of centuries-old traditional restraints, and the triumph of the individual genius. The promise of liberation is especially present in the Romantic arts in France in the revolutionary year of 1830: in the Symphonie Fantastique where Berlioz broke with classical sonata form and celebrated his own promethean energy; in Liberty Leading the People where Delacroix portrayed the Spirit of Liberty leading Parisians of all classes against Charles X's corrupt government; and in Hugo's play Hernani where the sterile rules of classical drama were jettisoned and replaced with vital fluid new ones. A new found freedom as well as alienation were the hallmarks of nineteenth-century artists and their work.[6]

The art of the last two centuries also illustrates for the student the confusion of values which seem part and parcel of the modern world. Such confusions even infiltrated the seemingly secure world of the dominant middle class. Here again works of art may aid the student to see the complex and apparently contradictory values of the emerging bourgeoisie. The student tutored in medieval and early modern architecture will be astonished to find that the middle classes at the moment of their triumph in the nineteenth century seemed incapable of discovering an artistic style of their own; instead, their architecture--the Houses of Parliament in London; the edifices along the Ringstrasse in Vienna--display a desire to return to an organic medieval architecture expressive of ideas--faith, corporatism, hierarchy--which seemed diametrically opposed to their own competitive and individualistic values. It was as if, to paraphrase the historian Martin Wiener, the European middle classes revolted against the very values which had made them prosperous and somehow yearned for the security embodied in the pseudo-medieval buildings they erected. [7]

An even more striking example of how art can illustrate conflicting values in the modern world is seen in the relationship of the bourgeoisie to the composer Richard Wagner in post-unification Germany. One act of a Wagner opera (the third act of Tristan und Isolde, for example) will present the student with a unique perspective on the crisis of German middle-class culture. Wagner's operas are a strange melange of materialistic power-worship and a despairing desire to escape the burdens of this world. Their very musical structure demands from the listener not rational analysis but rather--as in the Prelude to Tristan--an uncritical submergence into a sea of harmony. His operas celebrate lawless rebels and the biological drive for love, both of which are ultimately doomed by society. It is no accident that in his novel Buddenbrooks, Thomas Mann portrays the last member of a once-prosperous bourgeois family perishing in the wake of his exposure to Wagner's music. In Bismarck's authoritarian Germany, Wagner's art offered an impotent middle class a semi-religious spectacle which simultaneously celebrated the drive for power and offered a nirvana in which power was meaningless.[8]

After 1780 artists and their creations reflected a new world in which the individual had been set free from all traditional bonds only to discover what terrible loneliness results from loss of community. Still, some artists did strive to create new forms of community and to discover new values for the modern world. One such group was the Bauhaus movement led by Walter Gropius in Weimar Germany. Here the nineteenth-century distinction between artist and craftsman was ended; here industrialism was not rejected but rather employed to make beautiful and utilitarian objects for the masses; here an architecture was discovered which fit the new conditions and values of the contemporary world.[9]

I have provided some examples of how the teacher may use the arts in the classroom to illustrate the diverse values both of older traditional societies and of the modern world. In the most banal sense such cultural artifacts offer a kind of memory tool for the student; they provide a sort of hook on which to hang the often confusing cultural associations of past societies. In the most profound sense the arts *embody* past values; they thus deserve to be an integral part of all those courses whose aim is to inform the student of past cultures so as to help him better understand his own.

NOTES

1. For a good introduction to the relationship of art history to social and cultural history see William Fleming, *Arts and Ideas* (New York: 1980).

2. For the Parthenon and its relationship to Athenian society see, for example, R. E. Wycherley, *The Stones of Athens* (Princeton: 1978). See also Vincent Scully, *The Earth, The Temple, and the Gods. Greek Sacred Architecture* (New Haven: 1979; revised edition).

3. For the cathedral as an exemplar of medieval culture see Georges Duby, *The Age of the Cathedrals. Art and Society 980-1420* (Chicago: 1981) and Emile Male, *The Gothic Image. Religious Art in France in the Thirteenth Century* (New York: 1958).

4. For the "dual revolution" see Eric Hobsbawm, *The Age of Revolution 1789-1848* (New York: 1962).

5. For the relationship of artists to the dual revolution see Raymond Williams, *Culture and Society 1780-1950* (New York: 1966).

6. For an overview of the relationship of Romantic art (with special emphasis on Berlioz) to the 1830 revolution see Jacques Barzun, *Berlioz and the Romantic Century* (New York: 1969).

7. For middle-class architecture in Vienna see Carl Schorske, *Fin-de-Siecle*

Vienna. Politics and Culture (New York: 1981); for England see Robert Macleod, *Style and Society: Architectural Ideology in Britain, 1835-1914* (London: 1971). For Martin Wiener's thesis see his *English Culture and the Decline of the Industrial Spirit, 1850-1980* (Cambridge: 1980).

8. For a concise introduction to Wagner see Ernest Newman, *Wagner as Man and Artist* (New York: 1960).

9. For Bauhaus see for example Peter Gay, *Weimar Culture* (New York: 1968) and Hans M. Wingler, *The Bauhaus* (Cambridge: 1978).

NEED FOR DEVELOPING HUMANISTIC VALUES IN THE TEACHING-LEARNING ENVIRONMENT: A PARADIGM SHIFT

ENVIRONMENT AND ITS DEVELOPMENT: EDUCATIONAL APPROACH

T. Navaneeth Rao
Osmania University

Education is a multi-dimensional process and has to facilitate the process of actualisation of maximum potentialities of the individual so that he can develop harmonious relationships with himself, with the community, and laws of nature. It is only during the past few centuries, specifically during the post-renaissance period, that outstanding scientists like Newton, Galileo, Copernicus and a few other natural scientists and social scientists developed a paradigm of reality which was based on the mechanistic and deterministic view of man and society. The development of our political, social, educational, technological and economic institutions; systems and sub-systems occurred according to this dominant view. It was based on the assumption that only an accelerated rate of material progress and economic growth--without the scant regard to the limitation of natural resources--can bring about happiness and prosperity to the individual and society.

This is not the place to examine in-depth about the implications of science and technology during the historical perspectives; but the point which I would like to address to this gathering is that it is only when the negative aspects of science and technology had set in and started impinging on us with staggering magnitude that we realized our mistake. To put the issue explicitly, it is only when we were confronted with the serious problems of environmental pollution, ecological crises and exhaustion of our both renewable and non-renewable natural resources that we started looking before and after as to how to correct our developmental priorities so that we should not endanger our environment any further and endeavor to improve our existing impoverished human environment.

In this context, it is relevant to mention that all the world governments met at Stockholm under the auspices of the United Nations to take stock of the situation and to provide the corrective measures for improving our environment by shifting our developmental priorities. Opinions were sharply divided in the said conference ranging from one extreme to another; for example, calling for complete moratorium on further application of science and technology to the developmental process. This point of view was expressed by environmentalists and leaders of the developed societies. On the other hand, the leaders of developing societies argued that we need more science and technology for improving the physical conditions of our rural people and improving our impoverished rural environment. Poverty of the developing societies was viewed as one of the greatest pollutants to the human environment. It is only by striking a delicate balance between these two extreme views that we can develop an integrated and healthy attitude to the developmental processes of our environmental resources. This would call for reordering of our developmental priorities. Instead of following western technological models of development, the developing countries will have to learn from the experiences of the developed societies and to evolve the technological models which will be ecologically oriented and suited to the environmental and cultural needs of their societies. A new focus on the development of new sources of energy like solar, wind, tidal, and geo-thermal is needed to replace the replenishing non-renewable sources of energy.

It is against this background that we must restructure our educational system in such a way that it promotes a healthy holistic and integrated outlook towards natural resources. The post-Einsteinian physicists are speaking with one voice about the philosophy of interconnection, interdependence and holistic approach to life and the universe. If we have to meet the threats of future with firmness and foresight, we must have an educational system which should tell us how to live in accordance with laws of nature. Design with nature should be our motto. The Indian traditional literature and insights tell us the same identical truth.

SOURCES OF STRESS IN ACADEME:
A CROSS-CULTURAL COMPARISON BETWEEN ISRAELI AND AMERICAN ACADEMICIANS

Arye Perlberg
Department of Education
Technion-Israel Institute
of Technology, Haifa, Israel

Giora Keinan
Roy D. Wolfe Center for Study
of Psychological Stress,
University of Haifa, Haifa, Israel

Stress and its Manifestations

In the last decade, there has been a growing interest in the phenomena of job related stresses. The effects of stress on the physical and psychological well being of people in different professions and occupations, and their productivity, have become the focal interest of researchers in many disciplines (Farber, 1983).

Burnout, tedium, wear and tear, deadwoods, midlife crises, are newly defined concepts associated with psychological stress, which have been receiving growing attention in recent years. There is no doubt that the phenomena of stress and its manifestations such as burnout, tedium, etc., had existed long before they were the focus of this present attention. But the proliferation of books, research reports, popular articles and the growing number of commercial workshops and other activities, designed to teach people how to cope with these phenomena have already caused some alarm. Several writers (Farber, 1983) have begun to question whether the growing involvement in the study of stress and burnout has not become another fashionable subject to investigate, or even a fad which will vanish after sometime, like many other issues in the social sciences.

The literature on stress and burnout focused originally on the "helping professions" and "human services" (Cherniss, 1980), such as: social work, nursing and school teaching. More recently there has been interest in studying other occupations which generate considerable stress such as corporate business occupations, and areas which involve continuous interpersonal relationships between professionals and clients that cause, and may result in, emotional exhaustion, fatigue, frustration and cynicism regarding work and people. These are viewed by some researchers as manifestations of the state of burnout. (Maslach and Jackson, 1979; Manuso, 1979; Freudenberger, 1980).

Stress in Academe

Compared to other professions, only a limited number of studies has been conducted on stress and burnout in academe. Melendez's and de Guzman's (1983b) book is entitled: "Burnout: The New Academic Disease". In their discussions, they ask: "Can Academia survive burnout? (p.4). Further on they state that "Academia has infinite opportunity for survival if it can stop the burnout epidemic immediately" (p.5). Epidemic and survival are very extreme terms and one would assume that they are based on "hard data" drawn from ample studies of stress and burnout in academe. But, a close examination of Melendez's and de Guzman's review of the literature reveals that their analysis is based on studies of the literature in other professions, their own study (Melendez and de Guzman, 1983a) and only a few other studies on stresses in academe. The description of an "Epidemic" and the need for "survival" are based more on a qualitative analysis of the present trends in academe, and their own inferences and extrapolations rather than on empirical evidence. Gmelch, Lovich and Wilke (1983a) cite additional studies, conducted by their own team and by others, which attempted to study the problem of stress in academe (Gmelch, Lovich and Wilke, 1983b; Wilke, 1983; Clark, 1974; Schul, 1972; Koester and Clark, 1980; Eckert and Williams, 1972).

From the available empirical studies on stress and burnout in academe and from the qualitative analysis of the present state of affairs in academe, it appears that the phenomenon of stress and burnout does exist. Moreover, the academic system, with its many inherent inner contradictions, has been a source of frustration, stress and burnout for many faculty members. The system expects productivity and effectiveness in research, teaching and services, but rewards only or mainly research. Recent economic constraints and mounting pressures have increased insecurity and uncertainty, all of which effect research productivity and the general quality of life of the faculty. Therefore, the growing interest in stress and burnout in academe is natural and legitimate and, consequently, there is a need for more studies on these phenomena in academe, their determinants, consequences and coping techniques.

Cross-Cultural Research on Stress and Burnout

A review of the literature on stress and burnout reveals that there are cultural differences in the perception of stress and the coping strategies and buffering mechanisms. Cross-cultural research on stress and burnout is reported mainly by Pines, Kafry and Etzion, who studied the phenomena in the U.S.A. and Israel. (Pines and Zimbrado, 1978; Pines, Kafry and Etzion, 1979; Pines, Aronson and Kafry, 1981; Etzion, Kafry and Pines, 1982; Etzion, Pines and Kafry, 1983; For a more comprehensive list of publications of these three researchers, see the Bibliographies in their recent publications).

In comparing the general conditions of life in the United States and Israel, it stands to reason that there is more stress in Israel than in the U.S. The internal and external political situation in Israel is unstable and after five wars, there is still a constant danger of immediate war. Casualties as a result of terrorist activities, occur almost daily. Israelis have to serve a long period of time in the regular armed forces and in the reserve units. The economic situation in very grave. In 1984 the inflation rate was over 800%. Israelis have to work much harder than Americans in order to obtain essential household products. It would be reasonable to assume that Israelis would experience and report a higher rate of stress, burnout and wear and tear than Americans. But comparative studies of different populatons in different professions which were conducted on similar samples, both in the U.S. and Israel, show consistently that Israelis report a lower rate of stress and burnout than Americans.

One hypothetical explanation to this phenomenon is that Americans are more "open" and do not deny their stresses and states of burnout.* While Israelis deny their stresses and states of burnout, both to themselves and to others. However, there might also be another explanation which fits Lazarus' concept of stress. Accordingly:

> Psychological stress resides neither in the situation nor in the person; it depends on a transaction between the two. It arises from how the person appraises an event and adapts to it. Stress is what occurs when the demands of the environment, in the person's eyes, clearly exceed the resources of the person to handle them. Foremost among these resources is how the person construes the situation: does he or she judge it as threatening or as a challenge (Richard S. Lazarus quoted in Coleman 1979, p. 52).

---

* For an elaborate discussion of the problem of denial, see: Breznitz, S. (ed.), The Denial of Stress . New York. International Universities Press, 1983.

From the results obtained in the various studies conducted by Pines, Etzion and Kafry, it appears that Israelis, like Americans, experience many job related stresses and in many instances, they are similar in the order of importance. However, Israelis also experience other stresses which are much stronger in their magnitude and their job related stresses are not perceived as leading to burnout, tedium, wear and tear as in the case of Americans. Moreover, Israelis living in a country under siege have developed better coping or rather survival techniques. It should be emphasized that these explanations of the differences between Israelis and Americans are hypothetical and have to be verified by further research and in particular, through in-depth qualitative research.

Cross-Cultural Research on Stress in Academe

Objectives

The purpose of this study was to identify the sources and the extent of stress among Israeli university faculty and to compare them with similar American academicians. The Israeli study is exploratory and a more extensive study in scope and depth will be conducted in the future.

Method and Data Source

The instrument used to identify sources of stress among Israeli faculty was developed originally by Gmelch and his colleagues (1983). It was translated to Hebrew and a few items were modified to suit the unique Israeli conditions.

It should be pointed out that the Israeli academic system resembles, in most basic aspects, the American system and only minor modifications in the instrument were made. A pilot study was carried out on two samples of populations - 21 faculty members of the Departments of Education and Psychology at the University of Haifa, which focus on both teaching and research. The second sample comprised of 27 teachers in the Gordon Teaching College in Haifa, which is mainly a teaching institution.* The instrument used was sent to a larger number of faculty members in both institutions. The response rate was only 30%. Even though the results obtained in this pilot study were similar in many instances to those obtained by Gmelch and others, a number of items in the instrument were perceived as irrelevant to Israeli faculty. As a result, the instrument was revised again, mainly in the wording of the items perceived as not relevant.

In the second phase of the study, the instrument was sent to 120 faculty members in all six Israeli universities, to twenty faculty members in each university. This represents most disciplines existing in the universities, and the four academic ranks, from lecturer to full professor. A small number of teachers in the non-academic track was also included. Most of the questionnaires were returned to the researchers but only 90** were adequately completed and enabled a comparative analysis with American results.

* These two pilot studies were carried out by Miss Zehava Goldstein and Mrs. Zipora Oshrat. The authors would like to thank them for their contribution.

** Another 10 questionnaires were returned after the completion of the analysis.

The data from the Israeli questionnaires were analyzed along the dimensions of the analyses made by Gmelch (1983, 1984) in order to enable a cross-cultural comparative analysis.

Results & Discussion

The following findings report on: the character of job situations which university faculty find most stressful, the similarity and differences existing in the degree to which different disciplinary groupings respond to each major stress-producing situation, and an analysis of some professional and personal characteristics. The major findings are presented in the following tables.

Insert Table 1 about here

Table 1 compares the rank order of the most serious stressors experienced by the Israeli and American academicians. Six of the stressors are identical in both samples, although not in the same rank order. Four stressors which do not appear in the first ten of the American sample are items Nos. 3; 7; 9 and 10 in the Israeli list of stressors. On the other hand, the four items which do not appear in the first ten of the Israeli sample are items Nos. 2; 7; 9 and 10 in the American list.

From the results presented by this table it appears that academicians in both samples tend to impose upon themselves excessively high self-expectations, particularly in research and publication which are the main criteria for promotion. This may lead to an ongoing feeling of "having insuficient time to keep abreast with current developments in my field"; a "feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day" and to view other academic and non academic tasks as "disturbances". Imposing excessively high self-expectations may be a result of personality characteristics of academicians in general such as type A personalities and/or intensive institutional demands and a competitive environment.

It is interesting to note some of the differences between the two samples. Israelis have cited "Assignments of duties which take me away from my office". It seems that because of economic reasons, many Israeli academicians are forced to work in more than one job. Many teach in more than one institution and serve as consultants to different organizations. In addition many of them, especially the younger ones, still serve each year in their reserve units in the armed forces. They are usually officers and serve long periods. Since they are relatively young, they are also at the beginning of their academic carreer.

Israelis reported that "making presentations at professional conferences and meetings" is a serious stressor. This may be due to the fact that most of these presentations are given in English or other languages which are usually Israelis' second language. Americans reported that "securing financial support for their research" is a serious stressor, while Israelis didn't. It appears that the "competitive" spirit, as for obtaining research grants, is much higher among Americans than among Israelis, the latter may perceive the chances of obtaining funds as lower than the Americans and have "given up" on this matter.

Americans cited as a serious stressor, "demands which interfere with other personal activities, e.g. recreation", while Israelis didn't. It appears that Israeli academicians have less awareness of the importance of leisure activities than their American colleagues. In addition, as mentioned above, their involvement in more than one job hinders their engagement in leisure and recreational activities.

An additional observation gleaming from table 1 is the differences in the magnitude of the serious stressors. On the whole, the Americans reported a higher stress level. As mentioned above in the introduction, one explanation is that Americans are more open and are willing to report their stressors. Another explanation stems from the different hierarchies of life stressors. It appears that the job related stresses of Israeli academicians diminish in their significance when compared with other intense stressors which threaten the physical and psychological integrity of Israelis in general. Another dimension of the analysis relates to the differences of reported stress across disciplinary categories. Gmelch (1983) used the Eight Biglan disciplinary categories (Biglan 1973). Due to the small sample in the Israeli study, which was a pilot study, it was decided to diferentiate between four categories only. Table 2 presents the results of the analyses between these categories.

Insert Table 2 about here

From the above table it appears that there are differences in the reported serious stressors among the four categories. Academicians in the humanities and social sciences report in most cases a higher level of stress than their colleagues in the natural sciences, engineering, and health. In the American study, the situation is different. Gmelch (1983) reported greater similarities across disciplinary categories. These differences in the Israeli study might stem from the fact that the process of prommotion of Israeli academicians in the humanities and social sciences is in general more difficult and slower than in the other disciplines. There seems to be less financial and human resources for research in the social sciences and humanities. This in turn has also an impact on the advancement process. The recent economic difficulties in the country as a whole and in academic institutions in particular casts a greater threat of job security on academicians in the social sciences and humanities than in the other disciplines.

With regard to professional and personal characteristics, there are great similarities between Israeli and American academicians. It was found, in both samples, that the tenured faculty are less stressed than the untenured and there is a reduction of stress in the higher ranks of Associate and full professors. As for gender, women academicians are more stressed than their male colleagues.

Finally, the analysis and the findings of this study reiterate the need for cross cultural research on stress among academicians. While some of the sources of stress are similar in different cultures, there are unique stresses in each culture which call for different solutions to alleviate them and different coping mechanisms. It appears also that greater emphasis should be given to qualitative, in depth studies, in different cultures in order to obtain a better understanding of stress and its manifestations in academe.

REFERENCES

1. Chermiss, C. 1980. *Staff Burmount: Job Stress in the Human Services* . Beverly Hills, California. Sage Publications.
2. Clark, M.J. Organization Stress and Professional Performance Among Faculty Members at a Small College (Doctoral Dissertation, University of Michigan, 1973). *Dissertation Abstracts International* 1974, 35.3501A. (University of Michigan, Microfilms No. 74-15,689.
3. Eckert, R.S., and Williams, H.Y. *College Faculty View Themselves and Their Jobs* . Minneapolis: University of Minnesota, 1972.
4. Etzion, D., Kafry, D., and Pines, A. "Tedium Among Managers: A Cross-Cultural American-Israeli Comparison". *Journal of Psychology and Judaism* , 1982, *7* (1).
5. Etzion, D., Kafry, D., and Pines, A. Coping Strategies and the Experience of Tedium: A cross-Cultural Comparison Between Israelis and Americans". *Journal of Psychology and Judaism* , 8 (1) 1983-4.
6. Farber, B.A. 1983. *Stress and Burnout in The Human Service Professions* . New York, Pergamon Press.
7. Freudenberger, Herbert J. 1980. Burnout: *The High Cost of High Achievement* . Garden City, N.Y.: Doubleday and Company.
8. Gmelch, W.H., Lovich, N.A., and Wilke, P.K. 1983. A National Study of Stress Among University Faculty Members, *Phi-Delta Kappan* , (65) 367.
9. Galeman, Daniel. November 1979. "Positive Denial: The Case for Not Facing Reality". Psychology Today, 13 (6) 44-60.
10. Kosester, L.S., and Clark, C.H. *Academic Job Satisfaction: Difference Related to Sex and Marital Status* . Paper presented at the American Psychological Association 88th Annual Convention, September 1980.

11. Maslach, C., and Jackson, S.E. 1979. "Burned-out Cops and Their Families". *Psychology Today* 12 (12): 59-62.

12. Manuso, J., James, S. 1979. "Executive Stress Management". *Personnel Administrator* . 24 (11): 23-26.

13. Melendez, Winifred A., and de Guzman, Rafael M. 1983. Burnout: A Study of Stress in Academe. San Juan: Inter-American University (a).

14. Melendez, Winifred A., and de Guzman, Rafael M. 1983. *Burnout: The New Academic Disease* . ASHE-ERIC Higher Education Research Report No. 9 (b).

15. Pines, A., Kafry, D., and Etzion, D. *A cross-Cultural Comparison Between Israelis and Americans in the Experience of Tedium and Ways of Coping With it* . Paper presented at the Western Psychological Association Convention, San Diego, California, April 1974.

16. Pines, A., and Zimbardo, P. "The Personal and Cultural Dynamics of Shyness: A Comparison Between Israelis, American Jews and Americans". Journal of Psychology and Judaism, 1978, 3 (2), 81-101.

17. Pines, A., and Aronson, E., with Kafry, D. *Burnout: From Tedium to Personal Growth* . New York: Free Press, 1981.

18. Shull, F.A., Jr. Professional Stress as a Variable in Structuring Faculty Roles. *Educational Administration Quarterly* . 1972, *8* (3), 49-67.

19. Wilke, P.K. 1983. The Relationship of the Reward Structure, Sources of Stress and Productivity in a Land-Grant University (Doctoral dissertation, Washington State University).

Table 1

The Most Serious Stressful Situations Among Israeli and American Academicians

% Indicating a "Serious" Source of Work Stress*

	Israeli Academicians Stress Inducing Situations Statements	
1.	Having insufficiant time to keep abreast with current developments in my field	42%
2.	Imposing excessively high self-expectations	39%
3.	Assignement of duties which takes me away from my office	33%
4.	Believing that the progress in my career is not what it should or could be	32%
5.	Preparing a manuscript for publication	32%
6.	Receiving inadequate salary to meet financial needs	31%
7.	Having inadequate facilities (office, library, laboratories, classrooms)	29%
8.	Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day	26%
9.	Making presentations at professional conferences and meetings	26%
10.	Not having clear criteria for evaluation of research and publication activities	24%

	American Academecians (Gmelch 1983) Stress Indducing Situation Statements	
1.	Imposing excessively high self-expectations	53%
2.	Securing financial support for my research	50%
3.	Having insufficiant time to keep abreast with the current developments in my field	49%
4.	Receiving inadequate salary to meet financial needs	41%
5.	Preparing a manuscript for publication	40%
6.	Feeling that I have too heavy a work load, one that I cannot possibly finish during during the normal work day	40%
7.	Having job demands which interfere with other personal activities (recreation, family and other interests)	35%
8.	Believing that the progress in my career is not what it should or could be	34%
9.	Being interupted frequently by telephone calls and drop-in visitors	33%
10.	Attending meetings which take up too much time	33%

Table 2

Comparison of the Most Serious Stressful Situations Across Four Disciplinary Categories

Stress Inducing Situation Statements	% Indicating a "Serious" Source of Work Stress*			
	Natural and Exacts Sciences	Engineering and Health	Social Sciences	Humanities
1. Having insufficient time to keep abreast with current developments in my field	45%	40%	45%	42%
2. Imposing excessively high self-expectations	25%	33%	45%	42%
3. Assignement of duties which takes me away from my office	30%	7%	42%	42%
4. Believing that the progress in my career is not what it should or could be	20%	27%	39%	42%
5. Preparing a maruscrupt for publication	15%	13%	34%	75%
6. Receiving inadequate salary to meet financial needs	40%	13%	34%	25%
7. Having inadequate facilities (office, library, laboratories, classrooms)	20%	7%	40%	42%
8. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day	10%	33%	29%	33%
9. Making presentations at professional conferences and meetings	30%	27%	21%	42%
10. Not having clear criteria for evaluation of research and publication activities	20%	13%	29%	33%

* % "serious" determined to be a response in the 4 and 5 categories on a five-point scale running from "slight pressure" (1) to "excessive pressure" (5).

BURNOUT: A STUDY OF STRESS IN ACADEME

Winifred Meléndez
Inter American University

&

Rafael de Guzmán
University of Puerto Rico Medical School

The academic climate of the 1980's indicates a highly stressful environment for faculty due to dissatisfactions with their work or institutions. They are cognizant of the dichotomy between their personal expectations and the rewards offered to them by their profession. The exodus of faculty from the academy to private business enterprise augments rapidly. Industries lure faculty with attractive salaries and generous fringe benefits. Besides, the teaching profession has lost its public esteem and trust. The ideal of becoming a scholar has become an unrealistic achievement since the marketplace is saturated with PhDs. For many, academe is no longer an attractive remunerative or confident way of life.

At present the usual compensations of tenure and promotion have been diminished whereas other more informal values exert pressures between the individual and institution. It is becoming almost impossible to achieve security through tenure. Requirements for a pro - motion include a set number of publications preceding the professor's effectiveness and success of teaching. The reward system does not value quality teaching even though most professors regard it as their responsibility.

Even though the extrinsic rewards of the academy have lost their savor there are many professors who enter or continue in academe because they pursue intrinsic values: teaching, collegiality, knowledge, respect, and service. "These intrinsic values are still the driving force behind faculty careers" (Newell and Spear 1982, p.5). Although many find the professorship a satisfying career, they are sensitive to the incompatibility between their personal professional goals and those of the institutions.

Studies reveal that faculty blame many of their dissatisfactions on the internal structure of institutions (McGee 1971), involvement in planning and in governance (Magarrell 1982). Policies and practices often negate the professoriates' opinions, thus academics feel less involved in the important decisions about running the institutions. Faculty have individual sets of values and goals to reconcile personal satisfactions, while institutions establish overall rules and regulations which have implications contrary to accommodating the needs of individuals.

The degree of commitment and purpose to the organization and profession differs among the faculty and the institutions (Clagett 1980). Pankin defines professionalism.

> Usually included in the definition of professionalism is some notion of collegiality. Professionals are seen relating to each other as a group of equals on an informal and "primary-like" level. The imposition of more formal relationships is often resisted (1973, p.96).

Pankin explains further that this definition provides a clue to the conflict, and thus he points out that:

> The organization tends to impose formal relationships on professionals, while professionals prefer collegial relationship. The preference is pre-established and develops through the long process of socialization. There is a large body of evidence which indicates that informal relationships predominate between those defined as equals at work. "Primary-like" informal relationships are the opposite of those that the organization requires to operate at its most efficient level, i.e.,

> formal relationships. The conflicts between professionals and their organization may be explained, therefore, by recognizing that two different types of social relationships may be operative, i.e., collegiality and formal relationships. When these two types of social relationships operate together, conflict is inevitable (p.97).

Miskel and Garhardt explain that the areas of possible conflict are:

> First, the professional is bound by a norm of service while a bureaucrat's primary responsibility is to the organization. Second, professional authority is based on technical knowledge while bureaucratic authority rests on a legal contract backed by formal sanctions. Third, professional decisions are based on internalized professional standards, while bureaucratic decisions represent compliance with directives from superiors. Finally, a professional's decision is judged by peers while a bureaucrat's decision is judged by a superior (1974, p.85).

Increasing pressures on faculty create an unnecessary stressful environment which makes individuals feel "pushed" (Pankin 1973) to resign or simply wonder if the institution really cares.

Although academics and other professionals have exhibited symptoms of burnout, personnel in organizations also are prone to the rise of the syndrome. Clagett (1980) cites organizational indicators of professional burnout as described by White. These are:

> (1) high turnover, (2) low morale, (3) "we-they polarizations, (4) increased concern with bureaucratic "turf", (5) conflicts over authority, (6) scapegoating of organizational leaders, (7) increased absenteeism, and (8) the replacement of informal communication by rigid, role-defined channels (1980, p.4).

Research on the sources of college faculty stress, although limited in nature and scope, suggests that work stress is due to dissatisfactions prompted by academic retrenchment, inflation, unemployment, and shifts in student diversity. Stress factors most frequently cited include lack of faculty participation in decision-making, the increase in underprepared students, student expectations of high grades, apathetic peers, and low salaries(Clagett 1980).

Other surveys show work-related factors that strongly satisfy faculty. These are "moral values, social service, and activity" (Grahn 1981). In the same study work-related areas of dissatisfaction cluster around organization and management functions, including advancement, compensation, and company organization and policies. Bender and Blackwell (1982) report that salary, institutional support and policies are the three highest rankings in comparisons; by degree, sex, tenure status, and years at institution.

In a study of the relationships between college finances and faculty member's assessments, involvement in college planning and governance was deemed a major factor in causing low morale among 5,000 faculty members at 93 colleges and universities (Magarrell 1982). The proportion of faculty involved in their institution's planning and governance declined from 64 percent in 1970 to 44 percent in 1980. Leadership appears to be an important factor. Administrators at private institutions involve more faculty in planning and decision making. Faculty at 10 community colleges as a group felt a loss of control, resulting in a dramatic decline in institutional spirit and concern for their institution's system of governance (Magarrell 1982).

Stress may be associated with leadership power structures. Although not enough evidence exists to establish a consistent association between democratic leadership and higher productivity, "in most situations... democratic leadership is associated with higher morale" (Rosenbaum and Rosenbaum 1971, p.348). Although "high morale should not be in lieu of high productivity," it does "suggest a positive work environment, which lends itself to increased productivity" (Mitchell 1980, p.8).

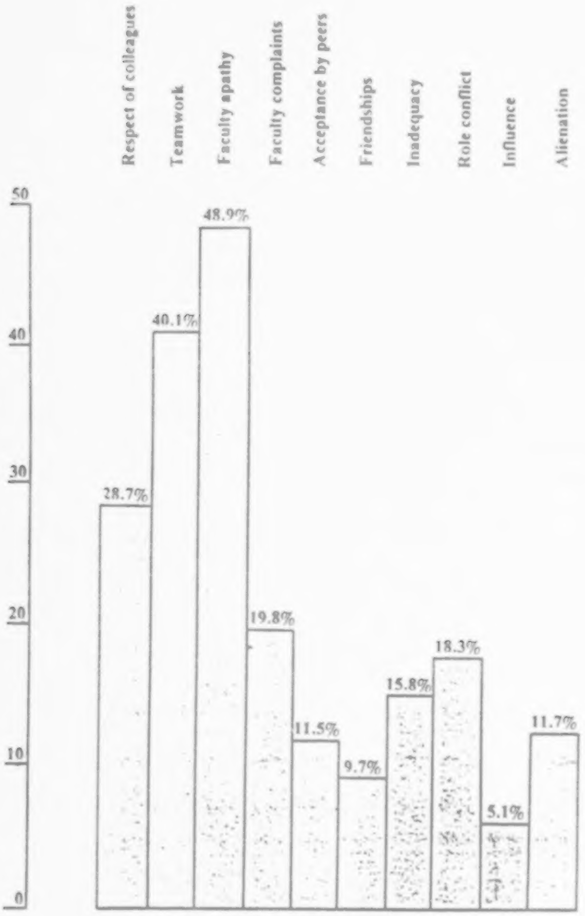
Supporting the general trend toward increasing faculty members' prductivity and creativity are the findings of a study investigating the sources of stress of 1,957 faculty and administrators at 17 two- and four- year colleges (Meléndez and de Guzmán 1983). Almost one-fifth of the respondents (19 percent) reported they experienced severe stress, 43 percent indicated they experienced moderate stress, 27 percent reported mild stress, and 11 percent never felt any work stress at all. Specific job situations were found to be most stressful. For purposes of analysis, the numerous factors that generate stress among academics were distributed among three categories: those related to colleagues, those related to students, and those related to administration. In this investigation, the three sources of stress of most concern were faculty apathy, student apathy, and workload rather than salaries, job security, or diversity of students (see Figures 1,2 and 3). Among factors related to colleagues, faculty apathy was the greatest producer of frustration, followed by team work and respect of colleagues (Figure 1). Among factors related to students, the three greatest factors were students' apathy (the lack of motivation among students), students' expectations for high grades despite instructors' belief they are not warranted, and the decline in students' entry-level ability for college-level work, in that order (Figure 2). Of the factors related to the institutions administration, workload, budget constraints, and the lack of faculty members' participation or influence in decision making, in that order, caused the greatest stress. Promotions and salaries followed closely (Figure 3).

Although faculty indicated workload as the third greatest source of stress among all the sources listed, the average number of teaching hours coupled with other academic responsibilities did not indicate a heavy workload. "Workload," however, includes the additional time spent preparing for "quality" teaching. Apathy, diversity, and entry-level ability of students, in addition to individual coaching and tutoring, certainly require much more preparation time from professors and make workload appear unduly heavy.

The number one source of stress was faculty apathy; almost half the respondents (48.9 percent) indicated it was a factor. Hence, in terms of their own perceptions, respondents indicated that little time is available to devote to group interaction because teaching and research consume so much time.

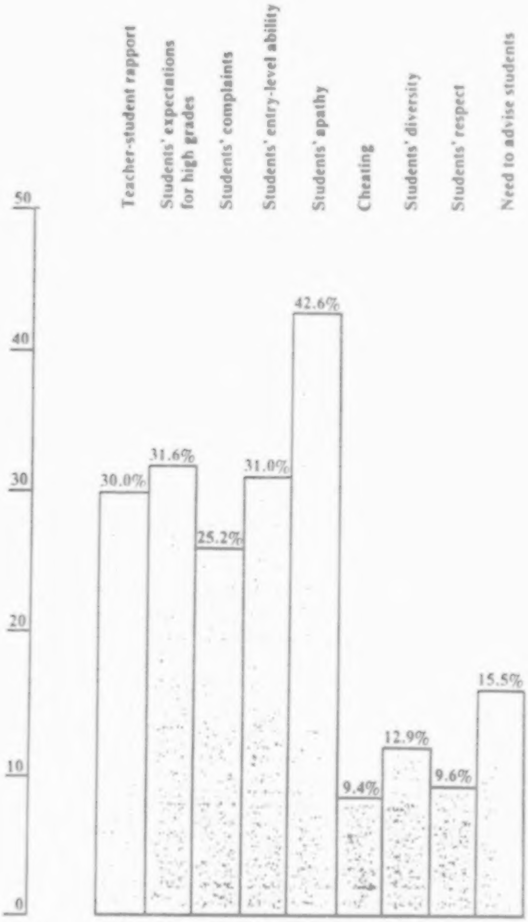
The individuals experiencing severe stress may reach their limits of tolerance in two to eight years if their conditions do not change. With age comes greater vulnerability to a very severe case of burnout and marked depression. As one becomes older, one has fewer reserves, and "... every biologic activity leaves some irreversible 'chemical scars,'" which will never be completely restored (Selye 1974, p.28). As resources weaken, the individual's level of tolerance lessens. Thus, the person becomes more vulnerable to burnout.

FIGURE 1
SOURCES OF STRESS RELATED TO COLLEAGUES



Source: Winifred A. Meléndez and Rafael M. de Guzmán, *Burnout: A Study of Stress in Academe* (San Juan: Inter American University, 1983), appendix.

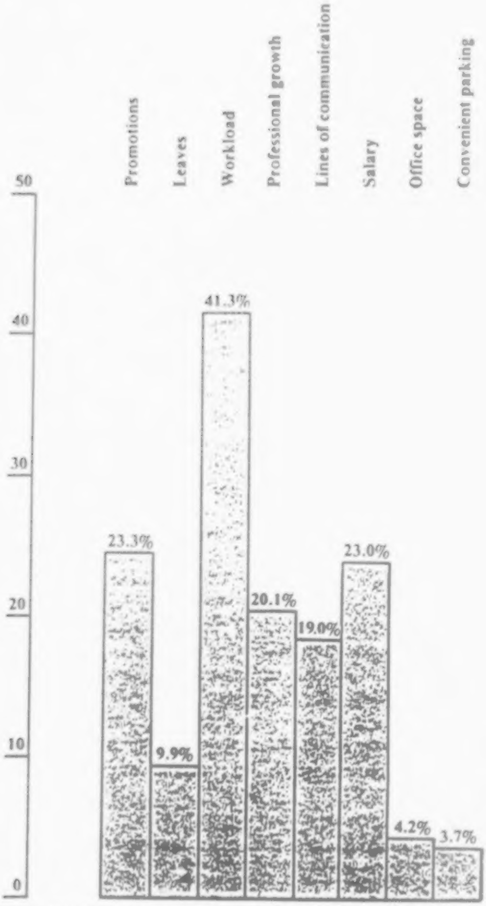
FIGURE 2
SOURCES OF STRESS RELATED TO STUDENTS



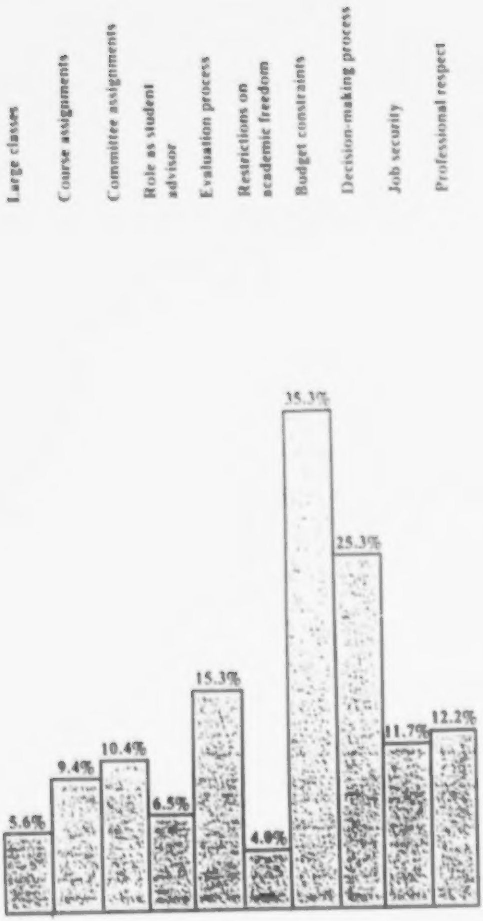
Source: Winifred A. Meléndez and Rafael M. de Guzmán, *Burnout: A Study of Stress in Academe* (San Juan: Inter American University, 1983), appendix.

FIGURE 3

SOURCES OF STRESS RELATED TO ADMINISTRATION



Source: Winifred A. Meléndez and Rafael M. de Guzmán, *Burnout: A Study of Stress in Academe* (San Juan: Inter American University, 1983), appendix.


Large classes
5.6%
Course assignments
9.4%
Committee assignments
10.4%
Role as student advisor
6.5%
Evaluation process
15.3%
Restrictions on academic freedom
4.0%
Budget constraints
35.3%
Decision-making process
25.3%
Job security
11.7%
Professional respect
12.2%

References

Bender, Robert C., and Blackwell, Martha W. 1982. Professional Expectations, Stress, and University Faculty: An Analysis. Houston, Tex.: Southern Association for Counselor Education and Supervision.

Clagett, Craig A. 1980. Teacher Stress at a Community College: Professional Burnout in a Bureaucratic Setting. Largo, Md.: Prince Georges Community College, Office of Institutional Research. ED 195 310. 60 pp. MF-$1.17; PC-$7.24.

Grahn, Joyce. 1981. General College Job Satisfaction Survey. Minneapolis: University of Minnesota. ED 208 716. 28 pp. MF-$1.17; PC-$5.49.

McGee, Reece. 1971. Academic Janus. San Francisco: Jossey-Bass.

Magarrell, Jack. 10 November 1982. "Decline in Faculty Morale Laid to Governance Role, Not Salary." Chronicle of Higher Education 25(11):1.

Meléndez, Winifred Albizu and De Guzmán, Rafael M. 1983. Burnout: The New Academic Disease. ASHE-ERIC Higher Education Research Report No. 9. Washington, D. C.: Association for the Study of Higher Education.

Miskel, Cecil, and Gerhardt, Ed. 1974. "Perceived Bureaucracy, Teacher Conflict, Central Life Interests, Voluntarism, and Job Satisfaction." Journal of Educational Administration 12(1):84-97.

Mitchell, Regene L. 1980. "A New Dimension: The Leader's Role in Identifying and Managing Stress in the Work Environment." Graduate seminar paper, Pepperdine University. ED 216 708. 17pp. MF-$1.17; PC-$3.74.

Newell, Jackson L., and Spear, Karen I. 1982. "New Dimensions for Academic Careers: Rediscovering Intrinsic Satisfactions." Paper presented at the annual meeting of the Association for the Study of Higher Education, Washington, D. C., March 2.

Pankin, R. February 1973. "Structural Factors in Academic Mobility." Journal of Higher Education 44:95-101.

Rosenbaum, Leonard L., and Rosenbaum, William B. 1971. "Morale and Productivity Consequences of Group Leadership Style, Stress, and Type of Task." Journal of Applied Psychology 55(4):343-48.

Selye, Hans. 1974. Stress without Distress. New York: Lippincott & Crowell.

White, William L. 1980. Managing Personal and Organizational Stress in Institutions of Higher Education. Rockville, Md.: N. C. S., Inc.

PRESSURES OF THE PROFESSORIATE: INDIVIDUAL AND INSTITUTIONAL COPING STRATEGIES

Walter H. Gmelch
Washington State University

The university professor represents one of the most complex, elusive, and intriguing professions since ancient times. Despite its uniqueness and longevity it remains one of the most misunderstood occupations in the world. Few have ventured to study the professoriate, and when exploring its dimensions the discourse most often remains at the philosophical and esoteric levels. While academicians eagerly study other professions, they seldom find the time and interest to investigate their own. More simply stated by John Gardner: "Education is to professors as water is to goldfish. They swim in it, but never think to study it."

Little is known about the impact of stress or faculty performance, but considerable research on other occupations connects stress to the adverse consequences of low job satisfaction, inadequate performance, and poor health. In the past, university professors have been identified as having fewer health problems than other professionals (Phillips, 1982). In fact, the National Institute of Mental Health ranked professors as one of the least stressful professions, and a study by the Institute for Social Research at the University of Michigan concluded that university professors (along with family physicians and white collor supervisors) are most satisfied with their jobs and report fewer somatic complaints.

In spite of this evidence, the issue of faculty stress is becoming increasingly important to the institutions and faculties of higher education. This paper focuses on institutional and individual strategies for coping with stress. To set the stage, the faculty stress cycle will be introduced to guide the reader through the discussion and to explain the framework used to undertake a comprehensive study of faculty stress. Next, the results of the National Faculty Stress Research Project will be reviewed to provide an understanding of the pressures of the professoriate, both in terms of individual stressors and general factors of stress. Finally, the research findings will be applied to individual and institutional coping strategies.

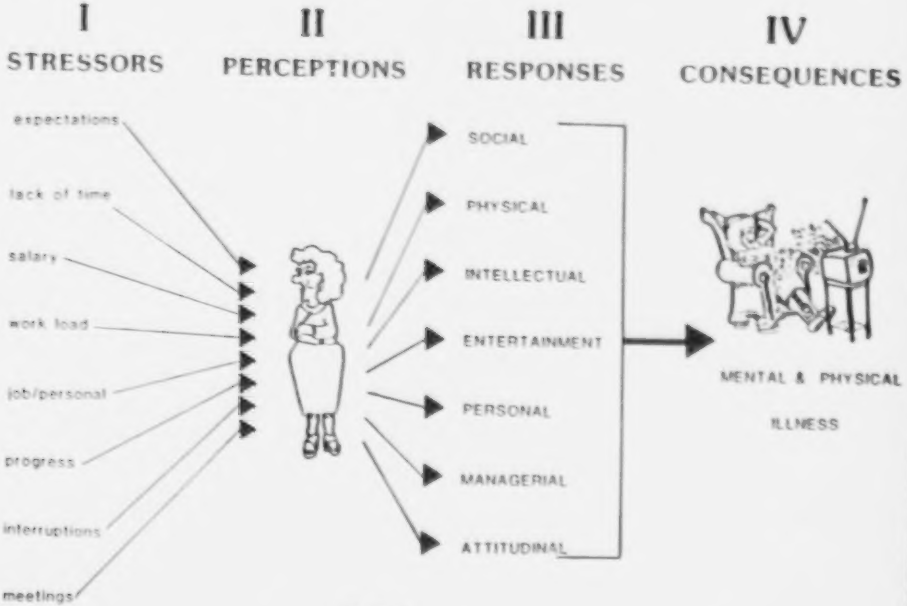
Faculty Stress Cycle

Stress is a complicated phenomenon, subject to a range of definitions. This paper reflects the four-stage stress cycle depicted in Figure 1. This process begins with Stage 1, a set of specific demands, or stressors. Excessive meetings, interruptions, and confrontations produce some stress, but how much depends on Stage II--the individual's perception of the demand. If the individual does not have the physical and/or mental resources to meet the demand, he or she perceives that demand as a stressor. The stress created by this discrepancy between demand and personal resources results in a stress response--Stage III--taking the form of social, physical, attitudinal, and other reactions. The fourth and final stage, termed consequences, pertains to the intensity and long-range negative effects of stress.

Consistent with the stress cycle, the following definition of stress is posited: One's anticipation of his or her inability to respond (Stage III) adequately to a perceived (Stage II) demand (Stage I); accompanied by the anticipation of negative consequences (Stage IV) due to an inadequate response. The intent of this paper is to focus on the first, second, and third stages of the stress cycle by identifying faculty members' perceptions of their stressors, then provide strategies for

Figure 1

THE STRESS CYCLE


I
STRESSORS
II
PERCEPTIONS
III
RESPONSES
IV
CONSEQUENCES
expectations
lack of time
salary
work load
job/personal
progress
interruptions
meetings
SOCIAL
PHYSICAL
INTELLECTUAL
ENTERTAINMENT
PERSONAL
MANAGERIAL
ATTITUDINAL
MENTAL & PHYSICAL
ILLNESS

how they can respond positively. If the *stressors* can be identified, the *perceptions* turned into positive assessments, and the *responses* used in a variety of ways, then the *consequence* can be a healthy and productive faculty member.

Pressures of the Professoriate

The National Faculty Stress Research Project was undertaken to fulfill the following specific objectives: (1) identify job situations perceived by faculty as most stressful; (2) group these stressful job situations into interpretable factors; (3) search for significant relationships between perceived stress and personal and professional factors such as academic discipline, rank, tenure, age, and gender; and (4) identify strategies for faculty to cope with stress (Gmelch, Lovrich, & Wilke, 1984). It is not the intent of this paper to recapitulate all the findings of our research but to extrapolate from the data findings applicable to individuals and institutions for reducing unproductive stress. Applications, a brief summary of the methodology, and findings follow.

Methodology

From among 184 doctoral granting universities in the United States, a sample of 40 public and 40 private universities was randomly selected. Faculty were stratified by Biglan's (1973) eight clusters of academic disciplines (see Figure 2), and by academic rank (assistant, associate, and full professor). From this stratification, a sample of 1,920 individuals was composed consisting of an equal number of faculty at public and private universities; equal proportions of assistant, associate and full professors; and equal proportions of faculty from each of the eight Biglan disciplinary clusters.

Figure 2

	HARD		SOFT	
	NONLIFE SYSTEM	LIFE SYSTEM	NONLIFE SYSTEM	LIFE SYSTEM
PURE	Astronomy Chemistry Geology Math Physics [illegible]	Botany Entomology Microbiology Physiology Zoology [illegible]	English History Philosophy Communications [illegible]	Anthropology Political Sciences Psychology Sociology [illegible]
APPLIED	Ceramic Engineering Civil Engineering Computer Science Mechanical Engineering [illegible]	Agronomy Dairy Science Horticulture Agricultural Economics Medicine [illegible]	Accounting Finance Economics [illegible]	Ed. Administration and Supervision Secondary and Continuing Ed. Special Education Vocational Education [illegible]

MODEL OF ACADEMIC DISCIPLINES

The questionnaire developed to measure sources of faculty stress evolved through a series of iterations designed to insure that all potentially relevant facets of job-related strain were explored. The thirty-item Administrative Stress Index (Gmelch, 1982) comprised the initial questionnaire core. This index was supplemented by items culled from a review of previous research and by items suggested from stress logs kept by twenty faculty members for a period of one week. Those participating in this initial phase of item development were asked to keep a diary of work-related stress. On a daily basis they reported both the most stressful single incident occurring that day (e.g., conflict with colleague) and the most stressful series of related incidents (e.g., recurring telephone interruptions). At the end of the week, they were asked to identify other common sources of stress that might not have occurred during the week in which stress logs were kept. After field testing, the final 45-item Faculty Stress Index (FSI) was mailed to 1,920 faculty, with a response rate of 75%.

Findings

In general, faculty reported that 60 percent of the total stress in their lives came from their work. More specifically, the researchers found that of the 45 stressors, the 10 most troublesome were: (1) imposing excessively high self-expectations, (2) securing financial support for research, (3) having insufficient time to keep abreast with current events in one's field, (4) low pay for work done, (5) striving for publication of one's research, (6) feeling that one is continually overloaded with work, (7) job demands interfering with personal activities, (8) lack of progress in career, (9) interruptions from telephone and drop-in visitors, and (10) meetings.

When faculty stressors were compared within disciplinary groupings, far more similarity than difference existed in the way faculty across academia viewed sources of work-related stress (Table 1). Strong evidence pointed out that the problem of stress in university settings is a general one, common to all disciplines rather than specific to a few disciplines. Also, faculty in a diverse range of disciplines reported similar degrees of stress associated with teaching, research, and service. Of these three major faculty functions, teaching was designated as the most stressful activity.

Next, the multidimensionality of the 45-item Faculty Stress Index (FSI) was investigated through the use of a principal components, varimax solution factor analysis (Gmelch, Wilke, & Lovrich, 1984). The results of the factor analysis indicated the presence of five distinct factors which, in combination, accounted for 86% of the common variance and included 31 stress items with loadings of .40 and above (see Table 2).

Reward and Recognition. The first factor, accounting for over 55% of the common variance, addressed the area of faculty rewards and recognition. All eight items dealt with inadequate rewards, insufficient recognition, and unclear expectations in all three areas of faculty responsibility: teaching, research, and service.

Time Constraints. The second factor, accounting for about 12% of the common variance, reflected time constraints which confront faculty members--insufficient time to keep abreast of current developments, inadequate time for class preparation, interruptions from telephones and drop-in visitors, writing memos and letters, attending meetings, too heavy a work load, and job demands interfering with personal activities.

Table 1

Comparison of the Most Serious Stressful Situations Across the Eight Biglan Disciplinary Categories

Stress Inducing Situation Statements	% Indicating a "Serious" Source of Work Stress*								
	All N=1221	HNP** N=138	HLP N=150	HNA N=143	HLA N=149	SNP N=136	SLP N=147	SNA N=117	SLA N=157
Imposing excessively high self-expectations	53%	49%	55%	55%	50%	58%	52%	60%	52%
Securing financial support for my research	50%	57%	69%	66%	50%	37%	50%	32%	34%
Having insufficient time to keep abreast with current developments in my field	49%	45%	51%	53%	52%	42%	56%	46%	49%
Receiving inadequate salary to meet financial needs	41%	41%	40%	41%	32%	43%	45%	36%	41%
Preparing a manuscript for publication	40%	33%	40%	30%	43%	47%	50%	40%	40%
Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day	40%	41%	46%	46%	43%	40%	37%	33%	35%
Having job demands which interfere with other personal activities (recreation, family and other interests)	35%	38%	35%	39%	37%	37%	34%	32%	30%
Believing that the progress in my career is not what it should or could be	34%	33%	39%	38%	31%	40%	34%	33%	29%
Being interrupted frequently by telephone calls and drop-in visitors	33%	32%	34%	50%	36%	22%	27%	35%	25%
Attending meetings which take up too much time	33%	24%	26%	32%	34%	32%	37%	36%	34%

* % "serious" determined to be a response in the 4 and 5 categories on a five-point scale running from "slight pressure" (1) to "excessive pressure" (5).

NOTE: Underlined entries represent figures which are sufficiently different from the "all cases" proportions to be accorded statistical significance (95 percent confidence level). A difference of ± 7 percent is needed for N approximating 150, and ± 8 for N approximating 120.

** HNP=Hard, NonLife, Pure; HLP=Hard, Life, Pure; HNA=Hard, NonLife, Applied; HLA=Hard, Life, Applied; SNP=Soft, NonLife, Pure; SLP=Soft, Life, Pure; SNA=Soft, NonLife, Applied; and SLA=Soft, Life, Applied.

Table 2

Varimax Rotated Factor Matrix
(n = 1,222)

Items and Factor Labels	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	Factor Loadings				
Reward and Recognition					
1. Receiving inadequate university recognition for community service	.63	.09	.05	.07	.09
2. Having insufficient reward for institutional/departmental service	.76	.16	.24	.11	.11
3. Receiving insufficient recognition for teaching performance	.71	.12	.20	.11	.24
4. Not having clear criteria for evaluating service activities	.55	.19	.28	.06	.08
5. Lacking congruency in institutional, departmental, and personal goals	.45	.18	.29	.13	.12
6. Receiving insufficient institutional recognition for research performance	.45	.05	.30	.31	.26
7. Receiving inadequate salary to meet financial needs	.47	.11	.17	.22	.08
8. Not having clear criteria for evaluation of research and publication activities	.56	.05	.32	.31	.02
Time Constraints					
9. Participating in the work of departmental or university committees	.09	.42	.06	.00	.13
10. Having insufficient time to keep abreast with current developments in my field	.14	.49	.04	.25	.12
11. Assignment of duties which take me away from my office	.14	.46	.14	.12	.08
12. Being interrupted frequently by telephone calls and drop-in visitors	.03	.63	.07	.16	.05
13. Having inadequate time for teaching preparation	.24	.49	.01	.10	.27
14. Writing letters and memos and responding to other paper work	.06	.60	.10	.07	.11
15. Having insufficient time for performing the service function	.35	.42	.10	.01	.12
16. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day	.11	.67	.06	.22	.01
17. Attending meetings which take up too much time	.19	.63	.04	.03	.11
18. Having job demands which interfere with other personal activities (recreation, family, and other interests)	.14	.53	.04	.31	.03
Departmental Influence					
19. Trying to influence my chair's actions and decisions which affect me	.27	.16	.78	.13	.16
20. Resolving differences with my chair	.22	.12	.81	.09	.08
21. Lacking personal impact on department/institutional decision-making	.38	.10	.52	.11	.13
22. Not knowing how my chair evaluates my performance	.36	.04	.61	.11	.04
Professional Identity					
23. Making presentations at professional conferences and meetings	.01	.09	.04	.52	.30
24. Imposing excessively high self-expectations	.06	.21	.11	.50	.14
25. Securing financial support for my research	.18	.23	.11	.48	.00
26. Preparing a manuscript for publication	.20	.15	.05	.62	.14
Student Interaction					
27. Evaluating the performance of students	.10	.12	-.01	.10	.62
28. Having students evaluate my teaching performance	.12	-.01	.10	.22	.54
29. Teaching/advising inadequately prepared students	.28	.21	.09	.05	.44
30. Resolving differences with students	.05	.15	.11	.07	.55
31. Making class presentations	.05	.10	.10	.27	.40

It is interesting to note that none of these stressors relate directly to teaching, research, or service, but represent the means, not the ends, of faculty productivity.

Departmental Influence. The third factor, accounting for 7% of the common variance, dealt with attempts to influence the chair's decisions, resolving differences with the chair, understanding how the chair evaluates faculty performance, and the overall lack of impact on departmental and institutional decision-making.

Professional Identity. If one assumes that faculty reputation is built on publications, presentations to conferences, grants, research, and the like, the emergence of the professional identify factor, account-for 6% of the common variance, is not surprising. Add to this factor the item of imposing excessively high self-expectations (the number one stressor for all faculty) and this factor could be the foundation of faculty stress. It is not so much the absolute amount of success faculty have achieved in publications and research but the relationship between the level of achievement and their personal expectations or aspirations that causes stress. The professor is unique in setting his or her own goals. As David Reisman once remarked, "No one should underestimate the miseries of having to set one's own goals."

Student Interaction. The final factor, accounting for 6% of the common variance, related to the interaction between students and faculty. They found themselves in conflict over evaluation, advising, and teaching.

With respect to personal and professional differences among the previous five factors, stress universally declined with tenure and as one moved to higher academic ranks of associate and full professor.

Differences were also found in the third professional characteristic, discipline, only with respect to rewards and recognition and student interaction.

In the area of personal characteristics--age, gender, and marital status--significant differences were found in two of the five factors: time constraints and professional identify. As faculty age increases, less stress is experienced from these two factors. Married women were identified as having most stress, with single women second.

Much like Blackburn's nine assertions about academic careers (1979), our research leads us to several truths about academic stress.

1. Faculty stress is predictable--depending on age, gender, and marital status.
2. Faculty stress is consistently influenced by the professional variables of tenure and rank.
3. Faculty stress is determined to a high degree by the institutional reward structure.
4. Faculty stress is influenced by time constraints impeding the way to productivity.
5. Faculty stress is influenced by the perceptions of one's own expectations.
6. Faculty stress is universal across all academic disciplines.

Coping Strategies

Before applying the research findings to coping strategies, current implications from the research on coping are important to highlight. The literature is significant in volume and diverse in attention (Burke & Weir, 1980). Coping research addresses popular and academic concerns as well as conceptualized, theoretical, and empirical investigations. Researchers from the disciplines of medicine, political science, psychiatry, clinical psychology, behavioral science, and education have undertaken studies to understand the phenomenon of stress, its consequences, and coping responses.

From the previous studies, the following propositions on coping are asserted as a basis, and bias, of this paper:

(1) The individual is the most important variable--no one coping technique is effective for all individuals in all situations.

(2) Individuals can't change the world around them, but they can change how they relate to it.

(3) Coping techniques must be sensitive to cultural, social, psychological, and environmental differences in individuals.

(4) Individuals who cope best develop a repertoire of techniques to counteract different stressors in different situations.

(5) An individual's repetoire of techniques should represent a holistic approach toward coping, including known effective strategies such as physical activity, occupational skills, social support, and so on (Gmelch, 1984).

What is the nature of coping? Is there a definitive strategy which, if used, can help faculty systematically address the stresses in higher education?

Individual Strategies

Numerous personal coping strategies have been theorized by stress researchers. Lazarus (1966) conceptualized two ways of coping: (1) to direct one's efforts at dealing with the sources of stress, and (2) to address the subjective experience of stress (palliative techniques). Lazarus contended that most individuals attempt direct-action techniques first and, if not successful or practical, rely on palliative techniques. Adams (1981) suggested a three-level approach to stress management: (1) removing or avoiding unnecessary stressors; (2) coping effectively with necessary stressors; and (3) building health to buffer long-term effects of stress. The coping strategy posited here suggests dividing stressors into two categories: (1) those internally controlled and (2) those externally controlled. Those within the individual's control should be managed at the cause level by self-management techniques. Those beyond one's control should be attacked at the symptom level with stress absorbers such as relaxation, nutrition, exercise, and coping attitudes (Gmelch, 1982).

The majority of top stressors from our research related directly to time and/or resource constraints--insufficient time to keep abreast of current events in the field, interruptions from telephone calls and drop-in visitors, too many meetings, as well as insufficient salaries and securing financial support for research. Clearly some of these stressors are more controllable than others. Most faculty would agree that while they could become better managers of their time, it is more difficult to directly impact salaries in such difficult economic times.

Overall, much of the stress faculty experience might be alleviated with a reappraisal of individual capabilities and limitations. Faculty must learn to manage the stressors within their control. While aspirin provides temporary relief, managing stressors produces permanent results.

The Faculty Action Plan proposed in Figure 3 should help successfully reduce menacing stressors. The purpose of the plan is to systematically dissect and redirect stressors. In doing so faculty can analyze

Figure 3

Faculty Action Plan

I. **Most Bothersome Stress Event:** ____________________

II. CAUSES	III. SOLUTIONS	IV. SPECIFIC ACTION PLAN
1.	1.	a) The plan is to:
2.	2.	
3.	3.	b) Type of Action
4.	4.	☐ Corrective ☐ Preventiv ☐ Interim ☐ Contingent ☐ Adaptive ☐ Other
5.	5.	

V. STEPS FOR IMPLEMENTATION	
1. **Activity:**	3. **How Often:**
2. **Where:**	4. **When:**
VI. FOLLOW-UP EVALUATION	
1	3.
2.	4.
VII. NEGATIVE UNINTENDED CONSEQUENCES	
1	3.
2	4.

© Walter H. Gmelch, Beyond Stress to Effective Management, The Wiley Press, 1982.

BEST COPY AVAILABLE

the causes of each stressor, examine potential solutions, and finally take corrective actions. Specifically, the steps in the Action Plan are:

1. Identify a bothersome stressor to resolve (the items in the Faculty Stress Index provide some initial clues);
2. Search for the causes of the stressful event;
3. Generate a set of possible solutions to remedy the causes.
4. Specify a plan to alleviate a cause;
5. Develop a timetable to implement the plan;
6. Set a date and method to follow-up and evaluate the effectivenss of the plan; and
7. Investigate potential problems or unintended consequences the plan may have created (Gmelch, 1982).

While the Action Plan may be seen as too mechanical and systematic, its logic is exactly what makes it work. A completed worksheet is shown in Figure 4. Any plan presupposes that faculty members have the organizational skills and foresight to put a program into action and see it through to its completion.

Again, when it comes to individual stressors, no amount of research will provide THE answer on coping. Even the foremost authority on stress, Hans Selye, pointed out that despite everything that has been written and said about stress and coping, no ready-made formulas suit everyone (1975). While this section of the paper suggested an individualized appoarch, the following section suggests some institutional strategies to attack the general factors of faculty stress.

Institutional Strategies

Stress intervention programs which might work well in one occupation have been found to have relatively little success in others (Caplan

Figure 4

Faculty Action Plan

I. **Most Bothersome Stress Event:** **Too heavy a work load, one that cannot be finished in a day**

II. CAUSES	III. SOLUTIONS	IV. SPECIFIC ACTION PLAN
1. Unrealistic appraisal of time	1. Conduct time schedules	a) The plan is to: Concentrate on high payoff tasks.
2. Inability to say "no"	2. Gain assertive skills	
3. Overcommited to work over family	3. Set your family/job goals	b) Type of Action
4. Unclear delineation of responsibilities	4. Request specific job description	☒ Corrective ☐ Preventive ☐ Interim ☐ Contingent
5. Cannot distinquish between high and low priorities	5. Concentrate on high payoff tasks	☐ Adaptive ☐ Other

V. STEPS FOR IMPLEMENTATION	
1. Activity: Develop high payoff and low payoff lists	3. How Often: Daily for two weeks
2. Where: In the office at my desk with no interruptions	4. When: Every morning at 8:30 a.m.

VI. FOLLOW-UP EVALUATION	
1. Did I write out my lists every morning?	3. Did I actually delegate or eliminate any low payoff tasks
2. Were the high payoff tasks completed first?	4.

VII. NEGATIVE UNINTENDED CONSEQUENCES	
1. My boss became upset with incomplete tasks important to him	3. I created an overload for my staff by delegating too many tasks to them
2. Work became too regimented and not as carefree	4.

***MODIFICATIONS OF PLAN NEEDED? Since my boss needs to know what I am concentrating on (high payoffs), I should communicate with him/her periodically to seek concurrence with my plan.

et al., 1975). While disciplines within universities potentially represent different occupations with regard to stress, faculty seem to have more similarities than differences across disciplines. It seems likely, therefore, that institutional strategies for stress management may be applicable across campus.

A caution, however, is duely noted: A doctor who knows the cure for many illnesses still cannot precisely prescribe the cure for a particular patient until careful diagnosis is completed. Examination must also be made within specific university settings before accurate prescriptions can be issued. Given this limitation, some generic strategies for coping with the factors of faculty stress are posited.

Stress Factor 1: Reward and Recognition. With respect to insufficient and unclear rewards, goal setting sessions should be undertaken by department chairs and deans to help faculty members understand their most important activities. At a minimum, an annual meeting should be established to address rewarded activities for the next year in teaching, research, and service. Every member should not be expected to produce excellence in each of the three areas every year, but possibly competence in one or two and excellence in the other(s). In this way the established goals can also be discussed in relation to their conguence with departmental and university missions such that each faculty member, when combined with the faculty as a whole, represent a faculty productivity portfolio of excellence and each is rewarded as such for his or her contribution.

Recognition traditionally has been viewed as monetary reward for excellence. However, numerous other mechanisms present powerful alternatives to mere financial benefit. The use of news releases on faculty activities, departmental bulletin boards displaying recent publications, and yearly faculty excellence awards in teaching, service, and research could be bestowed at the departmental level to assure a more realistic recognition of many deserving faculty rather the usual single member of the university at large singled out for excellence. These represent just a few ways faculty productivity can be recognized in the university and the community.

Stress Factor 2: Time Constraints. The paperwork, meetings, and interruptions represent not the "ends" of academic productivity but some of the "means" to goal accomplishment. These stress traps should be sprung so faculty can effectively use their time to meet their responsibilities. Inservice training in time management techniques may provide the logical remedy; not necessarily to train faculty in new ideas, but to remind them of techniques already known and in need of more consistent practice.

It is particularly ironic that institutions of higher education often treat their most important resource as either ineducable or self-sufficient in job management needs once the Ph.D. is achieved. Faculty development programs addressing such needs as time management can provide a great boost to both faculty morale and productivity. A few of the basic time management principles which should be reinforced are:

1. Assist faculty in identification of high pay-off (HIPOS) activities which will help them attain excellence in the critical products of teaching, research, and service.
2. Reduce the involvement of faculty in less meaningful, low pay-off (LOPOS) processes by cutting back

excessive meetings, committee work, and general administrivia.

3. Provide faculty with a more efficient working environment so that: routine paperwork can be dictated through a central dictaphone system or typed into a central word-processing pool; telephone calls can be screened so faculty can block uninterruptable productive time; and, if possible, faculty can retreat to a HIPO hideout for class preparation, manuscript and grant preparation, and other activities which require quiet, uninterrupted time.
4. Assist faculty in development of effective self-management techniques, particularly in planning and organization, so that the "right" things get done, rather than just getting things done.

Stress Factor 3: Departmental Influence. This factor supports numerous studies which reveal that faculty blame many of their dissatisfactions on the internal structure of the institution (McGee, 1971), and their own limited involvement in planning and governance. Even though departmental influences are among the most important features of faculty life (Nance, 1981; Cares & Blackburn, 1978), instititutions of higher education should not lose sight of the fact that while faculty want to influence decisions that affect them, they do not desire a total participatory structure riddled with more committees and meetings. Before the level of faculty involvement is determined, chairs and deans should consider the appropriate approach for their faculty--from "raise the issue and let the group decide" to "make the decision independently and then announce it to the faculty". Faculty participation should be decided based on the following criteria:

1. Does the issue under consideration make a difference to the faculty?
2. Does the administrator have adequate information to make a decision without faculty input?
3. Is there goal congruence between administrative and faculty desires?

Factor 4: Professional Identity. Many have postulated that the feeling of success or failure is dependent upon the relationship between one's achievement and one's level of aspiration--not on absolute success (Lewin, 1944; March & Simon, 1958). It is critical, therefore, that faculty have an opportunity to realistically set goals with the assistance of department chairs and deans. As indicated previously, the primary cause of stress is "excessively high self-expectations." If deans and chairs can help faculty set a realistic agenda, not only will productivity be focused, but faculty will be more satisfied with their accomplishments.

Since younger faculty and women faculty represent the group suffering the most from professional identity stress, support networks and mentoring systems should be provided to give the guidance and colleagial support needed to gain understanding and acceptance of one's contribution in his or her profession.

Factor 5: Student Interaction. Much of the stress involved in student interaction stems from its confrontation and conflict orientation. Training in counseling and negotiation skills is most important here. This training should not necessarily focus on soft negotiation skills such as "how to become friends", nor hard techniques on "how to live with adversaries", but on the practices of principled negotiations where both faculty and students become problem-solvers seeking wise outcomes efficiently and amicably (Fisher & Ury, 1981).

Conclusion

From our research findings on the nature of faculty stress, individual and institutional intervention strategies have been presented to universities and individual faculty members. Review, modify, and add to the summary of the suggested strategies in Figure 4. Since implications from research projects often raise more questions than answers, use these suggestions as a starting point toward a future of higher faculty productivity, satisfaction, and health. If this paper has succeeded in stimulating the reader's awareness and interest in faculty stress, then the purpose has been met. The answers rest with the actions of each faculty member and the institutions of higher education.

Figure 4

Individual and Institutional Coping Strategies

INDIVIDUAL STRATEGY: Divide stressors into two categories.

(1) For those externally controlled and beyond faculty control--attack the symptoms with stress absorbers such as:

- a. relaxation
- b. exercise
- c. nutrition
- d. coping attitudes
- e. social activities
- f. intellectual stimulation
- g. personal interests/hobbies

(2) For those internally controlled and within faculty control--attack the cause with the Faculty Action Plan:

- a. identify stressor
- b. search for causes
- c. generate possible solutions
- d. specify a plan to alleviate cause
- e. develop timetable to implement plan
- f. follow-up and evaluate plan
- g. investigate unintended consequences

INSTITUTIONAL STRATEGY:

1. Reward and Recognition

Reward:
- a. goal identification and congruence
- b. faculty productivity portfolio

Recognition:
- c. news release
- d. departmental displays
- e. excellence awards

2. Time Constraints

Time management inservice:
- a. identify HIPOS
- b. reduce LOPOS

Efficient working environment:
- c. central dictation and word processing
- d. screen telephone calls
- e. HIPO hideout
- f. effective planning and organization

Figure 4 (continued)

3. Departmental Influence	Faculty participation based on following criteria: a. Does it make a difference? b. Adequate information? c. Goal congruence?
4. Professional Identity	Recognize success is: a. independent of achievement b. aspiration-achievement gap
	Set annual goals with chair/dean
	Develop support networks
	Sponsor senior mentoring
5. Student Interaction	Faculty training in: a. counseling skills b. negotiation skills c. principled negotiation

References

Adams, J. D. Health, stress, and the manager's life style. Group and Organizational Studies, 1981, 6, 291-301.

Biglan, A. Relationships between subject matter characteristics and the structure and output of university departments. Journal of Applied Psychology, 1973, 57, 204-213.

Blackburn, R. T., & Havighust, R. J. Career patterns of male academic social scientists. Higher Education, 1979, 8, 5.

Burke, R. J., & Weir, T. Coping with stress of managerial occupations. In C. L. Cooper & R. Payne (Eds.). Current concerns in occupational stress. New York: John Wiley & Sons, 1980.

Caplan, R. D., Cobb, S., French, J. R. P., Van Harrison, R., & Pinneau, S. R. Job Demands and Worker Health: Main Effects and Occupational Diffferences. HEW Publication No. (N10SH) 75-160, 1975.

Cares, R. C. & Blackburn, R. T. Faculty self-actualization: Factors affecting career success, Research in Higher Education, 1978, 123-136.

Fisher, R. & Ury, W. Getting to yes. Middlesex, England: Penguin Books, 1981.

Gmelch, W. H. Beyond stress to effective management. New York: John Wiley & Sons, 1982.

Gmelch, W. H. Educators' response to stress: Towards a coping taxonomy. New Orleans, LA: AERA Conference, April 1, 1984.

Gmelch, W. H., Lovrich, N. P., & Wilke, P. K. A national study of stress among university faculty members, Phi Delta Kappan, 65, 1983, 367.

Gmelch, W. H., Lovrich, N. P., & Wilke, P. K. Stress in academe: A natural perspective. Research in Higher Education (in press).

Gmelch, W. H., Wilke, P. K., & Lovrich, N. P. Factorial dimensions of faculty stress. New Orleans, LA: AERA Conference, April, 1984.

Lazarus, R. S. Psychological stress and the coping process. New York: McGraw-Hill, 1966.

Lewin, K., Dembo, T., Festinger, L., & Sears, P. S. Level of aspiration. In J. McV. Hunt (Ed.) Personality and the behavior disorders, 1944, 1, Ronald Press, 333-378.

March, J. G., & Simon, H. A., with Guetzkow, H., Organizations. New York: John Wiley & Sons, 1958.

McGee, R. Academic janus. San Francisco: Jossey-Bass, 1971.

Nance, E. C. Self investment theory and academic work. Washington, D.C.: University Press of America, Inc., 1981.

Phillips, E. Stress, health and psychological problems in the major professions. Washington, D.C.: University Press of America, 1982.

Selye, H. Stress without distress. New York: Signet Books, 1975.

Wilke, P. K. The relationship of the reward structure, sources of stress, and productivity in a land-grant university (Doctoral dissertation, Washington State University, 1983).

A TEN YEAR PERSPECTIVE ON FACULTY EVALUATION

Dr. Richard I. Miller
Higher Education Program
Ohio University, USA

The first international conference on Improving University Teaching was held in Heidelberg, Germany during the summer of 1975. In a general session address at that meeting on "Assessing Teacher Effectivenss," I began with this observation: "The interest in this topic currently is at a high point in the United States and signs of diminution are not discernible at this time." Reflecting back on that statement ten years later, I am tempted to add: "So, what else is new!"

Ten years ago, the United States was fresh from the memory of the tragic student shootings at Kent State University. During the 1965-1970 period of student riots and protests and for several subsequent years, state legislators reacted in many states by cutting budgets, passing punitive legislation, and insisting that state governing or coordinating bodies take a sterner hand in campus management.

In 1974 the United States was recovering from a strong 1970 recession that particularly affected the private colleges. The recession meant fewer students, less money for collegiate operations, and need for fewer academic personnel; therefore, assessing teaching effectiveness became more important as a means of making more equitable decisions about retention, promotion, and tenure.

The 1974-1984 period in the United States saw double-digit inflation, economic slowdowns, and worsening economic pressures on our colleges and universities. But most of our institutions of higher education were coping through the generous use of creative frugality. Recent evidence (1984) from research by the National Center for Higher Education Management Systems (NCHEMS) indicates that "during the past three years, fewer than 20 percent of all colleges and universities experienced declining enrollments," and more institutions experienced enrollment declines than revenue declines. (1)

An element in coping strategies included more equitable and effective ways of making academic personnel decisions on promotion and tenure, and merit. This "belt-tightening" affected all types and sizes of our colleges and universities, and lessons learned have been conducive to better management. Our institutions of higher education are definitely better managed in 1984 than in 1974, but there is still room for much improvement.

Changes over the Ten Years

The changes in faculty evaluation in United States colleges and universities over the 1974-84 span have been both positive and questionable.

Positive changes

1. The use of faculty evaluation has significantly increased over the past ten years, and no end is in sight. The "high point" mentioned in 1974 is significantly higher in 1984. Several surveys that probed into the extent to which faculty evaluation is used in both formative (developmental) and summative (promotion and tenure) decisions. Generally speaking, one can generalize from these disparate studies that about two-thirds to three-quarters of United

States colleges and universities have some systematic way for evaluating faculty performance. All institutions have some way for evaluating academic faculty so the question is whether or not a systematic approach is used.

The use of faculty development programs has increased more dramatically than summative systems. Approaches to faculty development are not new; in fact, gatherings of scholars to discuss matters of mutual interests pre-date Ancient Greece by a thousand years or more. The uses of other faculty development approaches such as pedagogical assistance, technological aids, career guidance, and personal counseling are relatively new. These dimensions are areas where the most noticeable improvements in faculty development were made during the 1974-1984 period. However, the extent to which colleges and universities are using their faculty evaluation systems for developmental purposes is not known. Judith Aubrecht concludes "that very few institutions are making good use of their faculty evaluation systems for developmental purposes." (2)

2. A broader data base for making faculty evaluation decisions is evident. Data from Peter Seldin's very useful, new book (3) indicate an expansion in the number of significant sources of data for evaluating teaching. See Table 12.

Table 12. T-Tests of Differences in Mean Scores of Sources of Information Considered in Evaluating Faculty Teaching Performance in Private Liberal Arts Colleges, 1973 and 1983

Sources of Information	*1973 (N = 410) Mean Score*	*1983 (N = 515) Mean Score*	t^a
Systematic student ratings	2.20	1.45	13.52^b
Informal student opinions	2.04	2.35	-6.40^b
Classroom visits	2.98	2.48	8.99^b
Colleagues' opinions	1.76	1.69	1.42
Scholarly research and publication	2.30	2.28	0.31
Student examination performance	2.95	3.03	-1.47
Chair evaluation	1.22	1.26	-0.87
Dean evaluation	1.19	1.33	-3.40^b
Course syllabi and examinations	2.56	2.21	6.41^b
Long-term follow-up of students	3.13	3.13	-0.08
Enrollment in elective courses	2.79	3.09	-6.07^b
Alumni opinions	3.09	3.05	0.97
Committee evaluation	2.17	2.06	1.38
Grade distributions	3.05	3.04	0.23
Self-evaluation or report	2.58	1.95	9.24^b

[a] The test used was a t-test for differences in independent proportions.
[b] Significant at 0.01 level of confidence.

In Seldin's 1973 study, as indicated in Figure 12, only three sources--colleagues' opinions, chair evaluation, and dean evaluation--earned a mean score rating of less than 2.00. But in the 1983 study five sources--the same three plus systematic student ratings and self-evaluation--earned the same low rating. This increase in the number of sources with low mean scores suggests that private colleges increasingly are considering a wider range of sources in evaluating faculty performance. Although evidence is not available for other classifications of US postsecondary institutions, I would judge that Seldin's data, which focuses on private, liberal arts colleges, would be relevant for other types as well.

3. Functional "systems" for faculty evaluation have developed. Ten years ago we were thinking much more about faculty evaluation in terms of a number of separate pieces rather than as parts of an integrated system. A system considers each part and how it meshes

with the whole, which can be greater than the "sum of the parts"--to use a basic Gestalt tenet.

The noticeable trend toward developing evaluation systems reflects the increasing sophistication in using faculty evaluation. More people know much more about evaluation today than ten years ago. Also, the much greater use of computers has made systems easier. And some collective bargaining agreements have included detailed information on the system approach.

An evaluation system might include these components:

- Explicit instructions for administering the classroom teaching evaluation instrument to students.
- Information on turnaround time for the results.
- Who sees the results?
- How will the components, such as research and public service, be evaluated?
- What is the weighting among the evaluative components?
- What is the role of the various constituencies in the decision-making process: colleagues, chairperson, designated committees, dean, VPAA, and others?
- What grievance procedures are available to faculty members?

4. Survey instruments for appraising classroom teaching performance have substantially improved. Some earlier forms enjoyed widespread use and acceptance such as the Purdue Rating Scale that was developed by Remmers, and the various rating scales for classroom teaching that were developed at the University of Washington--both pre-World War Two vintage.

More recently developed instruments are machine scored and/or optically scanned, and they tend to focus are more relevant questions as contrasted with the "kitchen sink" approach that typlifies many earlier efforts. This earlier approach followed the dictum, "When in doubt about the value of a question, include it." As a result, earlier evaluation forms tended to be longer and to include too many extraneous questions.

Students who watch a teacher perform in a classroom for 50-60 hours per term, if asked questions that they can answer based upon their general background as well as the classroom activities, can give *valid* and *reliable* answers. Students are the best judges of (A) teaching methods (pedagogy); (B) fairness, which primarily concerns testing; (C) interest in me; (D) interest in the subject; and (E) global questions, such as: "How would you rate this teacher in comparison with all others that you have had thusfar?"

There are other questions, however, that colleagues are *best* able to answer. These are: (A) the teacher's mastery of content, (B) selection of content, (C) relevance of content to continuity of the course sequence, and (D) the relevance and quality of the course syllabus and related materials. Two questions--(A) course organization, and (B) course workload--can be asked of both students and colleagues.

5. *Court cases have improved the quality and equity of faculty evaluation*. The rash of court cases on irregularities and inequities in the application of faculty may have peaked in the United States but a steady stream of such cases may be expected to continue. In the late seventies in the State University of New York (SUNY) system, the threat and actuality of faculty suing the administration became so commonplace that one administrator, when threatened with a suit by a faculty member, replied: "Get a ticket and stand at

the end of the line!" On the whole, the court cases have had a significant impact upon improving the process, equity, and quality of faculty evaluation over the 1974-1984 period.

6. The use of research/scholarship in evaluating total faculty performance has increased. The reasons for this increase are more difficult to discern. Kenneth Eble speaks about "...a return to what a majority of faculty probably regard as 'traditional' values. I refer to the increasing weight given to research, publication, and professional activities." (4) The survey of private and public liberal arts colleges reported by Peter Sedin indicates that the importance of research/scholarship in evaluating faculty performance has increased. He suggests that "public colleges in particular may be emphasizing research and publication in the drive to impress state legislatures and other public bodies that control the purse strings." (5)

Another reason for the increased use of research/scholarship in evaluating overall faculty performance might be related to better policies and procedures for evaluating this dimension. Today many colleges and universities have detailed explanations for this process whereas such statements were quite uncommon in 1974. Again, a general increase in sophistication in the field of academic evaluation may play a part.

Questionable changes

As one would expect, not all perceived and documented changes in faculty evaluation over the 1974-1984 span have been positive.

1. The "rush-to-press" has seriously flawed some evaluation systems. Mandates that allow insufficient time for faculty and administrator reflection and investigation have a high mediocrity

rate. The recommended time needed for developing and/or extensively re-studying a current evaluation system is one academic year plus a summer.

2. *An anti-intellectual backlash has hindered development of some well designed plans for faculty evaluation systems.* Anyone who has gathered chalk dust on his/her sleeves knows there is *The Art of Teaching*--to use the title of a thoughtful little book by Gilbert Highet. He writes: "I believe teaching is an art, not a science. It seems very dangerous to me to apply the aims and methods of science to human beings as individuals....Teaching is not like inducing a chemistry reaction: it is much more like painting a picture, or making a piece of music....You must throw your heart into it, you must realize that it cannot be done by formulas, or you will spoil your work, and your pupils and yourself." (6)

And yet Donne wrote, "No man is an island, entire of itself." We live in social contexts in which all of us are judged by some standard by someone. The teaching-learning process is difficult to capture with words or on a rating scale yet objective treatment of the process is much fairer and more defensible than mystical pronouncements about it. It would be a genuine mistake, however, for those advocating more objective and systematic faculty evaluation systems to take lightly this and other objections to faculty evaluation, and especially to take lightly the objections to student ratings of classroom teaching.

3. *Excessive reliance upon quantification can be deterimental.* The "if you can't count it, it doesn't exist" point of view has lead to excessive reliance on numbers on rating scales and numerical weightings. Certainly some quantification is desirable and necessary

if only to be able to process large amounts of data, but these data need always to be buttressed with systematic and reasoned judgement. Perhaps the quantification problem and its humanistic amelioration was stated most succinctly by A. Enthovan: "It is better to be generally right than precisely wrong." (7)

The Future

What future directions will faculty evaluation take? The statement on the front of the National Archives Building in Washington, D.C. is relevant. With respect to the future nature of faculty evaluation, "The Past Is Prologue."

1. Better and more equitable faculty evaluation systems will be developed. These systems will include, in my opinion, better instrumentation, and better ways of using faculty evaluations, criteria. Lawrence Aleamoni, with respect to the future, writes: "I feel that faculty evaluation will be a very comprehensive, well-defined system by the year 2000, with explicit criteria and guidelines for evaluation decisions. These systems will be predominantly computer based, with explicit recommendations for improvement provided along with time lines to achieve improvement." (8)

2. Faculty evaluation will become more rigorous. External forces and pressures will provide the impetus for this increased rigor. Caution must be exercised, however, so that this likely trend will not make professors overly conscious about their evaluations. Such lurking thoughts can deter innovation and freshness in teaching.

3. We can expect to see more sophisticated, computerized systems. Here again a caveat: The system is a means to formative

and summative evaluation and not an end itself. We should not become over-enamored with the systems themselves. Their success will depend upon being cost-effective, providing some formative assistance, having the technical competence on the campus to maintain and "tinker" with the system, having sufficiently simple printouts so as to be readily understood by non-machine oriented faculty members, and being credible.

4. We can expect to see more individualized and flexible systems. A few current systems allow the individual faculty member to decide upon criteria for student evaluation of their teaching from a data bank of possible questions. Other systems, such as the one developed by this writer in 1972, allows each faculty member, in concert with the departmental chairperson and within constraints imposed by the needs of the department and directions and nature of the university or college, to determine professional work load and the weightings for the chosen criteria. (9)

The view of the future held by Robert Menges requires "flexibility" in evaluation. He writes: "Most present evaluation systems, because they are the result of compromise, are inherently conservative." (10) Continuing with the individualization theme as a future trend, Lawrence Aleamoni contends that "every new faculty member will be able to construct a contract indicating how much time and effort will be devoted to teaching, research, and service and what criteria will be used to judge his or her effectiveness in each of those areas." (11)

5. To an increasing extent, at least in the next ten years, we likely will see faculty evaluation decisions made in the context of department, college, and university priorities. George

Geis makes this point in the following way: "Evaluation of faculty... should be viewed in the larger perspective of the evaluation of the purposes of institutions of higher education." (12)

The institutional vitality has been a controlling reality for many colleges and universities that have undergone fiscal problems. With more fiscal ansterity likely in the decade ahead, this future direction should not be surprising. In one sense it may be unfair because it can penalize a faculty member for being in the wrong discipline at the wrong time, yet institutional health may depend upon making selective cuts in human and material resources. Where these circumstances are found, the administrative leadership needs to make decisions based upon the good of the larger whole as personified in institutional priorities.

And, finally, we need to keep in perspective on what evaluation is all about. It is really to serve students through providing better teaching and learning in a unique societal institution known as a college or university. Its products and its on-going activities account for most human progress and inventions; its traditions and mores cause frustrations and misunderstandings among its critics; its freedoms provide an essential bulwark for the democratic way of life; and its concern for idealism and ideas has kindled the hopes and dreams of millions who found themselves during college days. The idealism and expectations of academe were expressed eloquently by John Masefield in his poem given upon the occasion of the installation of the chancellor at the University of Sheffield in 1946. He wrote: "There are few earthly things more beautiful than a university."

It is a place where
those who hate ignorance
may strive to know...

Where those who perceive truth
may strive to make others see...

Where seekers and learners alike,
bonded together in the search for knowledge
will honor thought in all its finer ways...

Will welcome thinkers in distress or exile,
will uphold over the dignity of thought and
learning, and exact standards in all these things.

They give to the young in their impressionable
years, the bond of lofty purpose shared,
of a great corporate life
whose links shall not be loosed until they die.

They give to young people
that close companionship
for which youth longs...

And that chance for endless discussion of themes
which are endless-without which youth
would seem a waste of time.

There are few earthly things
more splendid than a university...

In these days of broken frontiers
and collapsing values...

When dams are down
and the floods are making misery...

When every future looks somewhat grim...
And every ancient foothold...

Has become something of a quagmire.

Wherever a university stands it stands and
shines...

Wherever it exists, the free minds of men
urged on to full and fair inquiry,
may still bring wisdom into human affairs.

Selected References

(1) NCHEMS. "Decline: Separating Facts from Fallacies." *The NCHEMS Newsletter*. No. 87, June, 1984. p. 8.

(2) Aubrecht, J. D. "Better Faculty Evaluation Systems." In P. Seldin, *Changing Practices in Faculty Evaluation*. San Francisco: Jossey-Bass, 1984. p. 88.

(3) Seldin, P. *Changing Practices in Faculty Evaluation*. San Francisco: Jossey-Bass, 1984. pp. 50-51.

(4) Eble, K. E. "New Directions in Faculty Evaluation." In P. Seldin, *Changing Practices in Faculty Evaluation*. San Francisco: Jossey-Bass, 1984, p. 97.

(5) Seldin, *op. cit.*, p. 74.

(6) Highet, G. *The Art of Teaching*. New York: Alfred A. Knopf. 1950. In preface.

(7) Enthovan, A. "Measures of the Outputs of Higher Education: Some Practical Suggestions for Their Development and Use." In Lawrence and associates (Eds). *Outputs of Higher Education: Their Identification, Measurement, and Evaluation*. Boulder, CO.: Western Interstate Commission for Higher Education, 1970.

(8) Aleamoni, L. M. "The Dynamics of Faculty Evaluation." In P. Seldin, *Changing Practices in Faculty Evaluation*. San Francisco: Jossey-Bass, 1984. pp. 78-79.

(9) Miller, R. I. *Evaluating Faculty Performance*. San Francisco: Jossey-Bass, 1972.

(10) Menges, R. J. "Evaluation in the Service of Faculty." In P. Seldin, *Changing Practices in Faculty Evaluation*. San Francisco: Jossey-Bass, 1984. p. 114.

(11) Aleamoni, op. cit., p. 79.

(12) Geis, G. L. "The Context of Evaluation." In P. Seldin, Changing Practices in Faculty Evaluation. San Francisco: Jossey-Bass, 1984. p. 107.

TEN-YEAR PERSPECTIVE ON FACULTY AND STAFF DEVELOPMENT

Robert J. Menges
Northwestern University

Ten years brings a great deal of change. Consider your own situation ten years ago, during 1974-75. Where were you in those days, and how did you spend your time? Who were your intimate assoicates then compared with now? What possessions did you have then compared with now? What did you look like then, and what do you look like now?

Consider your teaching? What was your teaching like then, and what is it like now? Think of two or three faculty colleagues. What was their teaching like then compared with now?

As with everything else, our notions about faculty and staff development have changed during the decade. We can trace such changes in part through the record of these conferences. To begin I mention some themes which can be discerned in conference Proceedings. Then I briefly assess our current knowledge regarding faculty and staff development. Finally, I suggest some ways our views might change as these conferences move into a second decade.

Faculty and Staff Development at IUT Conferences

Join me in a tour of past conferences. There is time to glimpse only one or two events from each, but I have selected events which I think best illustrate that year's approach to the topic of faculty and staff development.

In 1975 (Heidelberg), Rose and Nyre's report on the ambitious California "fund for innovation" conveyed an optimistic tone. Its title was "From Retrenchment to Renewal." In 1976 (also Heidelberg), Centra documented the extensive array of faculty development activities in the United States and Elton discussed the mandate in the United Kingdom to provide training in teaching for all probationary university teachers. The term, "staff development," was used by several participants to embrace non-teaching as well as teaching personnel and to remind us that faculty do more than teach.

In 1977 (Newcastle), evaluation emerged as a dominant theme. There were presentations on evaluation of teaching, evaluation of programs, and evaluation of institutions. Pertinent to faculty/staff development, Seldin discussed faculty growth contracts. Cross' 1978 keynote (Aachen) pointed out inadequacies in university education and several other presenters mentioned concern with faculty resistance to modifying their ways of teaching.

In 1979 (London), several members of an international panel, as well as Massey in his opening remarks, pointed out a positive change in the stance of universitities, i.e., movement from making achievement as difficult as possible for students (the sorting function) toward a more supportive stance (facilitating learning). Summarizing a 1980 international panel (Lausanne), Brandt echoed the emphasis on learning, noted that students as well as staff should be part of faculty/staff development activities, and also pointed out that the field was becoming increasingly self-critical. Another session featured separate papers on faculty development for young, middle-aged, and older teachers.

By 1981 (Tsukuba), concern for declining research and development resources was evident. McKeachie discussed "What to do When Survival is Threatened," and Matheson found all of staff development in the United Kingdom to be at risk because of the termination of financial support at the national level. Constriction of resources was also noted in 1982 (West Berlin). Members of one panel took as their theme, "Strategies for Gaining Institutional Support for Professional Development." (The terminological preference of the year seemed to be "professional development" although one presenter used "educational development" to describe work with faculty and staff.) Despite worries about resources, there was some optimism, notably Jalling's good-humored "Ten Commandments for Staff Developers."

A year ago (1983, Dublin), the continuing struggle with hard times was explored in a session, "Motivating Faculty in a Time of Adversity." Eble observed, based on his experiences with grant-making programs, "In almost all institutions, but much more marked in the prestigious ones, faculty were inclined to favor activities that furthered their individual scholarly development over those that might develop teaching skills or course improvement" (Proceedings, 1983, p. 166). McKenna's summary of the closing plenary discussion on faculty development and evaluation recorded participants' concerns about definitions of those terms, particularly concern with the narrowness of a definition which is limited to improving teaching.

It is clear that themes at these conferences mirror larger social, political, and economic trends. In the last part of this paper I shall return to our concepts of faculty/staff development and discuss how they might anticipate trends which are likely to characterize postsecondary education during the next few years.

Some Things We Know About Development and Renewal

Work in faculty/staff development has two major strands, development and renewal, and we have learned a good deal about each.

The Theme of Development

Development implies gradual growth. To develop is to become fuller, larger, better. To develop is to disclose, to elaborate, to articulate. We regard development as a natural process, an unfolding. We treat development as primarily voluntary and as highly individual; it proceeds differently from person to person and from setting to setting.

Much attention has been given to strategies which promote the development of faculty, particularly as development relates to improvements in teaching. For example, we have had some success identifying conditions which are associated with faculty members' understanding and adopting new instructional approaches. Research both in pre-college settings (Joyce, Hersh, & McKibbin, 1983) and in higher education (Levinson-Rose and Menges, 1981) suggests that these conditions include presentation of theory, provision for practicing the new approaches and receiving feedback on that practice, and opportunities to be coached while applying new approaches in the field. (Of course, these are similar to conditions which promote learning and transfer for students in our classes.)

That these conditions require fairly structured situations leads us, however, into a dilemma. Faculty are proud to be self-directed learners. Because faculty value autonomy, they do not lightly put themselves into our structures. So the conditions which most effectively produce teaching improvement and innovation are conditions which also inspire resistance on the part of the faculty.

The Theme of Renewal

Renewal implies betterment of body, mind, and spirit. To renew is to reestablish or to refill, as with a fresh supply. Renewal is renovation, rejuvenation, new beginnings. The need for renewal reminds us that supplies of energy and time are finite. They become depleted; eventually, they are exhausted.

With reference to faculty, we usually give to renewal a broader meaning than we give to development. Renewal refers to a wider range of events, and its sources include change in opportunities, in responsibilities, in location. Renewal may be triggered by new rewards or recognition, by ad- vancement, by sabbaticals and other leaves of absence. These changes are likely to enhance faculty morale, particularly when faculty perceive signifi- cant control over them (as Maehr reminded us at another session of this con- ference).

But such opportunities and faculty control over them have been decreasing in many areas of postsecondary education. Institutions contract, work becomes routine, horizons darken. Our prospects are for sameness and decline rather than for novelty and expansion. We become defensive; we may retreat. The need for renewal becomes greater even as its likelihood diminishes.

External and internal circumstances press change upon institutions. Re- sources within departments, across departments, and across institutions are out of balance and will become increasingly so under anticipated social, eco- nomic, and political circumstances. Much of the balance can be restored through faculty exchange, relocation, retraining, and early retirement. In the past, these activities, particularly when initiated by faculty, have been as- sociated with renewal. Now the locus of control has shifted from individual faculty to institutions. Institutions may require faculty to make such adjust- ments because of external circumstances rather than because of faculty inter- ests. The predictable result is more likely hostility or withdrawal than re- newal.

In a study of several institutions in Illinois, Eash and Lane (1984) found little faculty acknowledgement that problems of resource imbalance affected them individually; they found virtually no enthusiasm among faculty for the kinds of activities which would deal adequately with such imbalance. Of course, exchange, retraining, and retirement do involve considerable personal dislocation. When they are imposed on faculty and resisted by faculty, we should not be surprised.

And so our knowledge about the social and economic situation of postsecondary education and about faculty motivation brings us to another dilemma, i.e., measures which appear to correct resource imbalance for institutions are likely to create motivational problems for individual faculty.

Toward a Broader Conception of Professional Development

How can our notions of faculty/staff development take account of these dilemmas as we move toward the end of the century? In America, at least, we need to broaden our concerns and our activities to encompass the entire careers of faculty. At the same time, we must retain our specific work with regard to teaching. (My comments about career-span development and renewal are made here with reference to faculty. Analogies might also be drawn to non-faculty staff members.)

In his Encyclopedia of Educational Research article on faculty development, Mathis (1982) reviews a number of studies which take account of faculty careers across the stages of adult development. Such research should continue and should influence our work. We do well to respond to the distinctive needs which faculty display at different career stages. We should consider the decisions which many faculty face during their careers and anticipate needs associated with the several outcomes of those decisions. As illustrations, I shall mention three such career decisions (see Figure 1).

A. One decision has to do with whether or not to remain in higher education. More faculty than ever before are asking this question because of personal concerns or because it is thrust upon them by external circumstances. If the answer is negative, we have opportunities to help them formulate alternatives and to ease their transitions. Even when careers change drastically, scholarly interests and activities need not cease. Many scholars have worked productively without ties to academic institutions (Gross, 1982).

B. A second decision deals with whether or not to retain an academic appointment. Those who remain in higher education may move from a conventional slot to one with nonacademic responsibilities. Moves to general administrative posts or student services are not uncommon. Some persons piece together several part-time academic jobs. Others increase their independent consulting time relative to conventional academic responsibilities or explore other "broadening options" (Furniss, 1984). We need to reflect on how they may be better served by our professional development offices.

C. A third decision concerns whether or not to remain in the same academic field. Those who remain primarily in academic positions may change specialties or add a second specialization. Retraining may range from advanced degree work in a completely new discipline to independent study in a field closely allied to the original specialty. In either case, faculty meet new pedagogical challenges and our programs should find ways of assisting them in their individual and instructional adjustments.

Those who remain in the same field are subject to weariness, boredom, and datedness. As specialists, all need exposure to the scholarly advances made by others. Some will continue to make their own contributions to scholarship. As teachers, they need support services for on-going instruction. They also deserve opportunities to experiment with fresh and innovative instructional approaches appropriate for developmental changes they are experiencing.

Toward More Flexible Career Development

The scheme in Figure 1 reflects rather rigid and traditional expectations about career patterns. One narrow life-time specialty may be appropriate for some, but it is likely that movement across specializations, in and out of academic positions, and even in and out of higher education will become more common. Perhaps the greatest challenge in the field of faculty and staff development is to work within our institutions and with external agencies to soften such boundaries so that faculty may cross them more easily.

References

Eash, M. J., & Lane, J. J. Faculty development: A study of constraints and opportunities for faculties of higher education. Paper presented at American Educational Research Association, New Orleans, 1984.

Furniss, W. T. *The self-reliant academic*. Washington, DC, 1984.

Gross, R. *The independent scholar's handbook*. Reading, MA: Addison-Wiley, 1982.

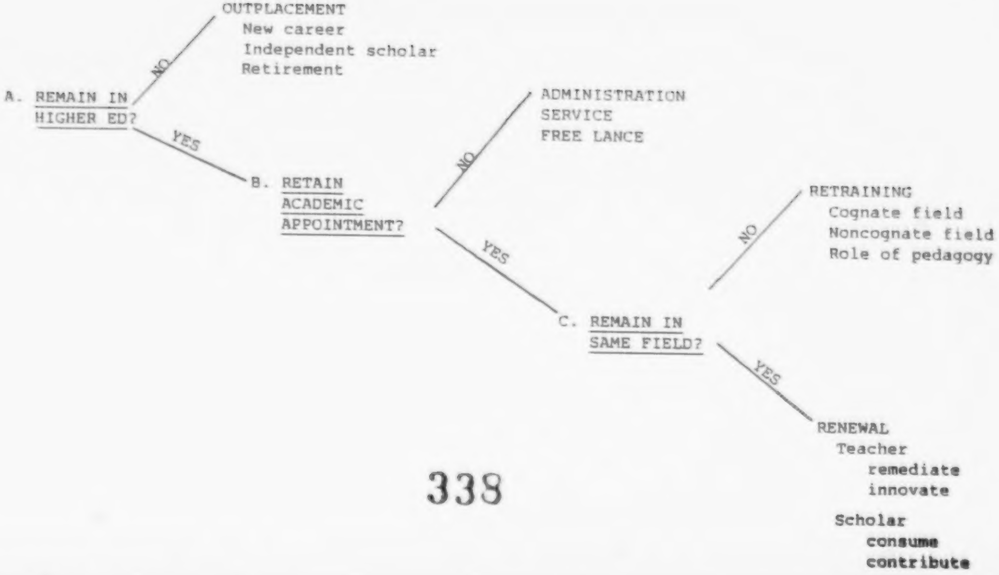
Joyce, B. R., Hersh, R. H., & McKibbin, M. *The structure of school improvement*. New York: Longman, 1983.

Levinson-Rose, J., & Menges, R. J. Improving college teaching: A critical review of research. *Review of Educational Research*, 1981, *51*, 403-434.

Mathis, B. C. Faculty development. In H. E. Mitzel (Ed.), *Encyclopedia of Educational Research, 5th ed*. New York: Free Press, 1982. Pp. 646-655.

Figure 1

CAREER DECISIONS BY FACULTY


A. REMAIN IN HIGHER ED?
NO
OUTPLACEMENT
New career
Independent scholar
Retirement
YES
B. RETAIN ACADEMIC APPOINTMENT?
NO
ADMINISTRATION
SERVICE
FREE LANCE
YES
C. REMAIN IN SAME FIELD?
NO
RETRAINING
Cognate field
Noncognate field
Role of pedagogy
YES
RENEWAL
Teacher
remediate
innovate
Scholar
consume
contribute